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STREAM RESTORATION SERVICES
SPB07-1378O-C

1. PARTIES

THIS CONTRACT, is entered into by and between the State of Montana, Department of Administration, State Procurement Bureau, (hereinafter referred to as "the State"), whose address and phone number are Room 165 Mitchell Building, 125 North Roberts, PO Box 200135, Helena MT 59620-0135, (406) 444-2575 and PBS&J, (hereinafter referred to as the "Contractor"), whose address and phone number are 1120 Cedar Street, Missoula, MT 59802 and (406) 721-0354.

THE PARTIES AGREE AS FOLLOWS:

2. PURPOSE

The purpose of this term contract is to establish a list of pre-qualified Stream Restoration Services Providers. Work will be assigned through task orders each against this term contract. The State makes no guarantee of use by any agency with authorized access to this term contract. This term contract covers stream restoration services projected to cost up to $499,999. Proposed projects for stream restoration services for which estimated costs exceed $500,000 will be advertised for competitive bid.

3. EFFECTIVE DATE, DURATION, AND RENEWAL

3.1 Contract Term. This contract shall take effect upon contract execution and terminate on June 30, 2009, unless terminated earlier in accordance with the terms of this contract. (Mont. Code Ann. § 18-4-313.)

3.2 Contract Renewal. This contract may, upon mutual agreement between the parties and according to the terms of the existing contract, be renewed in two-year intervals, or any interval that is advantageous to the State. This contract, including any renewals, may not exceed a total of seven years. Contractors failing to respond to renewal notices within the time specified by the SPB will have their name placed in an inactive status on the State website, and this shall make that contractor ineligible to receive task orders until such time as renewal information is received and accepted by the Contracts Officer.

4. NON-EXCLUSIVE CONTRACT

The intent of this contract is to provide state agencies with an expedited means of procuring services. This contract is for the convenience of state agencies and is considered by the State Procurement Bureau to be a "Non-exclusive" use contract. Therefore, agencies may obtain this service from sources other than the contract holder(s) as long as they comply with Title 18, MCA, and their delegation agreement. The State Procurement Bureau does not guarantee any usage.

5. COOPERATIVE PURCHASING

Under Montana law, public procurement units, as defined in section 18-4-401, MCA, have the option of cooperatively purchasing with the State of Montana. Public procurement units are local or state public procurement units of this or any other state, including an agency of the United States, or a tribal procurement unit. Unless the bidder/offeror objects, in writing, to the State Procurement Bureau prior to the award of this contract, the prices, terms, and conditions of this contract will be offered to these public procurement units.

6. TERM CONTRACT REPORTING

Term contractors shall furnish annual reports of term contract usage. The annual reports shall be based on information for July 1 through June 30 each year. Minimum information required to be included in usage reports: name of the agency or governmental entity that contacted contractor regarding a potential project; project title; agency contact person; if the project was not successfully negotiated, state the reason; number and title of contracts received; total dollar amounts for contracts received; the names of Contractor's personnel involved in the project; and project status as of usage report date. The first report for this term contract will be due July 30, 2008.

Reported usage and dollar totals may be checked by the State Procurement Bureau against state records for verification. Failure to provide timely or accurate reports is justification for cancellation of the contract and/or justification for removal from consideration for award of contracts by the State.

7. SERVICES AND/OR SUPPLIES

Contractor agrees to provide the State the following: Stream Restoration Designs, Oversight and/or Implementations with a range of complexities for various stream restoration, reclamation and enhancement projects located around the state using techniques that focus on restoring natural processes within the river-riparian ecosystem. Restoration, reclamation and enhancement projects will include stream channel re-naturalization; bank stabilization projects focusing on re-establishing natural structure and function, riparian restoration; spawning rearing and adult fish habitat enhancement; fish passage restoration; and in-stream flow enhancement.

8. ENGINEERING ACCESS

Contractor may need to have access to engineering services depending on the nature of the project. The contractor(s) will be expected to consult with the State and develop a recommendation as to whether engineering services are needed for a given project. However, engineering methodologies are not the emphasis of this RFP. Therefore, **NO** Architectural, Engineering and Land Surveying services are allowed under this term contract as defined under 37-67-101, MCA unless the procurement procedures of 18-8-204, MCA are followed.

8.1 Reuse of Documents. When the projects dictate a design or engineered approach, the State agrees that it will not apply the contractor's designs to any other projects.

9. PROJECT SELECTION

9.1 Project Identification. The State will be responsible for identifying projects, selecting a contractor, assigning a task order, and approving project payments.

9.2 Meetings. For stream restoration services, the contractor may be required to meet with state personnel at the onset of the project and periodically thereafter to resolve technical or contractual problems that may occur during the term of a project. The contractor may be required to attend meetings with other federal and state agencies and public meetings as directed by state personnel.

The contractor may be required to meet with state personnel at the project site to conduct a site evaluation and discuss project issues.

The contractor will be given a minimum of three full working days notice of meeting date, time, and location. While face-to-face meetings are desirable, a conference call meeting may be substituted at the discretion of state personnel. Consistent failure to participate in meetings (two consecutive missed or rescheduled meetings) may result in termination of the task order and contract.

9.3 Approach Expectations. In the case of reclamation activities, the agency will identify the preferred techniques. The selection of particular techniques by the State may define which contractor(s) are contacted for project initiation. The State is always open to new and innovative approaches that accomplish project goals.

10. SELECTING A CONTRACTOR

The State may select a term contract contractor listed in the Stream Restoration Services contract as posted on the Environmental Services Contract-Home page as provided under the State's website address http://gsd.mt.gov/apps/termcontracts/default.aspx, taking into consideration such things as the contractor's area of expertise, requirements and location of the project, the Contractor's availability and access to resources necessary to efficiently and effectively complete the project, demonstrated excellent past performance on state and public projects, identified subcontractors, and total project cost.

10.1 General. Ordering agencies shall use the procedures in this section when ordering services priced at hourly rates as established by each Term Contract (TC). The applicable rates and qualifications are identified in the TC along with the each contractor's point of contact.

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10.2 Request for Quotation (RFQ) Procedures. The ordering agency must provide an RFQ, which includes the SOW and limited but specific evaluation criteria (*e.g.*, experience and past performance), to TC contractors that offer services that will meet the agency's needs. The RFQ may be posted to the agency's state website to expedite responses.

10.3 Statement of Work (SOW). All SOWs shall include at a minimum a detailed description of the work to be performed, location of work, period of performance, deliverable schedule, applicable performance standards, and any special requirements (*e.g.*, security clearances, travel, special knowledge, budget constraints).

10.3.1 Ordering agency may select a contractor from the pre-qualified list and directly negotiate a mutually acceptable project based on a sudden and unexpected happening or unforeseen occurrence or condition, which requires immediate action (*Exigency*).

10.3.2 Ordering agency may place orders at or below the $5,000 threshold with any term contract contractor that can meet the agency's needs. The ordering agency should attempt to distribute orders among all contractors.

10.3.3 For orders estimated to exceed $5,000 but be less than $25,000:

- The ordering agency shall develop a SOW.
- The ordering agency shall provide the Request for Qualifications (including the SOW and evaluation criteria) to at least three listed TC contractors that will meet the agency's needs.
- The ordering agency shall request that contractors submit firm-fixed prices to perform the services identified in the SOW.

10.3.4 For orders estimated to exceed $25,000. In addition to meeting the requirements of 10.3.3 above, the ordering agency shall:

- Provide the Request for Qualifications (including the SOW and the evaluation criteria) to all listed term contract contractors.

10.4 Evaluation. The ordering agency shall evaluate all responses received using the evaluation criteria provided to the TC contractors. The ordering agency is responsible for considering the level of effort and the mix of labor proposed to perform a specific task being ordered, and for determining that the total price is reasonable. The agency will place the order with the contractor that represents the best value. After award, ordering agencies will provide timely notification to unsuccessful TC contractors. If an unsuccessful TC

contractor requests information on a task order award that was based on factors other than price alone, a brief explanation of the basis for the award decision shall be provided.

10.5 Minimum Documentation. The ordering agency shall document:

- The TC contractors considered, noting the contractor from which the service was purchased;
- A description of the service purchased;
- The amount paid;
- The evaluation methodology used in selecting the contractor to receive the order;
- The rationale for making the selection;
- Determination of price fair and reasonableness.

The State reserves the right to cease negotiations with the contractor if agreement cannot be reached on project approach and/or costs, and to begin negotiations with another contractor from the list. The State will keep complete written documentation of any negotiation process in the project file.

Agency project task orders will be utilized to finalize the project. Only written addenda will be used for adjustments of the task orders and must be signed by both parties. All task orders must contain signatures from both parties and appropriate agency legal review as directed in their procurement policy.

The State will monitor contractor selection by using the information provided in the annual term contract usage reports.

11. CONTRACTOR RESPONSIBILITIES

11.1 Supervision and Implementation. The contractor for an individual project will be responsible for the supervision and implementation of the approach and will be responsible for oversight of work performed by all subcontractors.

11.2 Applicable Laws. The contractor shall keep informed of, and shall comply with all applicable laws, ordinances, rules, regulations, and orders of the city, county, state, federal or public bodies having jurisdiction affecting any work to be done to provide the services required. The contractor shall provide all necessary safeguards for safety and protection, as set forth by the Department of Labor, Occupational Safety and Health Administration.

11.3 Work Acceptance. The contractor is responsible for project oversight as needed. All work rejected as unsatisfactory shall be corrected prior to final acceptance. The State may also periodically provide personnel for administrative oversight from the initiation of the task order through project completion. All work will be inspected by the State or designated liaison prior to approval of any task order payments. All work rejected as unsatisfactory shall be corrected prior to final inspection and acceptance. Contractor shall respond within seven calendar days after notice of defects has been given by the State and proceed to immediately remedy all defects.

11.4 Records. The contractor will supply the State with documentation, when requested, of methods used throughout project implementation. Contractor will maintain records, for itself and all subcontractors, of supplies, materials, equipment, and labor hours expended. The contractor will supply the State with photo documentation of methods of habitat restoration progress throughout project implementation. Contractor will maintain records for themselves and all subcontractors of supplies, materials, equipment and labor hours expended.

11.5 Communication. Remoteness of project sites may necessitate that the contractor have some form of field communication, such as a cellular phone. This communication is necessary to enable the State to respond to public questions or concerns related to the project, accidents, inspections, or other project issues that require immediate feedback. In addition, the State or cooperative purchaser may require scheduled communication at agreed upon intervals. The communication schedule will depend upon the project circumstances and requirements of the agency issuing a task order. In the case when a communication

schedule is included in the Scope of Work, the schedule will commence when the Contractor initiates the project.

11.6 Collaboration. The State encourages collaboration between contractors to increase the scope of services offered. If the contractor is not able to provide all services needed for the project, the State will expect the contractor to contact other contractors on the term contract list to negotiate subcontracts for these services before going elsewhere. Exceptions to this strategy will be evaluated on a case-by-case basis.

11.7 Subcontractors, Project Budget and Invoicing. All subcontractors to be used in any project must be approved by the agency initiating the project. Project budgets will be negotiated for each individual project task order. However, all rates, terms, and conditions set forth in this term contract will be applied to individual task orders.

Contractor's billing will include the subcontractors' charges, and payment will be made to the prime contractor.

11.8 On-Site Requirements/Cleanup The contractor should visit all job sites to verify measurements and to become fully aware of the conditions relating to the project and the labor requirements. Failure to do so will not relieve the contractor of their obligation to furnish all materials and labor necessary to carry out the provisions of the contract.

The contractor shall adequately protect the work, adjacent property, and the public in all phases of the work. The contractor shall be responsible for all damages or injury due to their action or neglect.

The contractor shall maintain access to all phases of the project pending inspection by the State or its representative.

All work rejected as unsatisfactory shall be corrected prior to final inspection and acceptance.

The contractor shall respond within seven calendar days after notice of observed defects has been given and shall proceed to immediately remedy these defects. Should the contractor fail to respond to the notice or not remedy the defects, the State may have the work corrected at the expense of the contractor.

In terms of cleanup, the contractor shall:

(a) keep the premises free from debris and accumulation of waste;
(b) clean up any oil or fuel spills;
(c) keep machinery clean and free of weeds;
(d) remove all construction smears and stains from finished surfaces;
(e) perform finishing site preparation to limit the spread of noxious weeds before final payment by the State; and
(f) remove all construction equipment, tools and excess materials before final payment by the State.

12. CONSIDERATION/PAYMENT

12.1 Payment Schedule. In consideration for the stream restoration, design and implementation services to be provided, the State shall pay according to the negotiated agreement for each task order. Hourly rates and miscellaneous charges as provided in Appendix C shall be the basis of any negotiations.

12.2 Withholding of Payment. The State may withhold payments to the contractor if the contractor has not performed in accordance with this contract. Such withholding cannot be greater than the additional costs to the State caused by the lack of performance.

13. COST/PRICE ADJUSTMENTS

13.1 Cost Increase by Mutual Agreement. After the initial term of the contract, each renewal term may be subject to a cost increase by mutual agreement. The State retains the unilateral right to reject any cost increase not supported by verifiable evidence.

13.2 Differing Site Conditions. If, during the term of this contract, circumstances or conditions are materially different than set out in the specifications, the contractor may be entitled to an equitable adjustment in the total project price. The contractor shall immediately cease work and notify the State in writing of any such conditions necessitating an adjustment as soon as they are suspected and prior to the changed conditions affecting the performance of this contract. Any adjustment shall be agreed upon in writing by both parties to the contract.

14. ACCESS AND RETENTION OF RECORDS

14.1 Access to Records. The contractor agrees to provide the State, legislative auditor, or their authorized agents' access to any records necessary to determine contract compliance. (18-1-118,MCA)

14.2 Retention Period. The contractor agrees to create and retain records supporting the Environmental Permit Preparation, Analysis and Assistance Services term contract for a period of three years after either the completion date of this contract or the conclusion of any claim, litigation or exception relating to this contract taken by the State of Montana or a third party.

15. ASSIGNMENT, TRANSFER, AND SUBCONTRACTING

The contractor shall not assign, transfer, or subcontract any portion of this contract without the express written consent of the State. (18-4-141, MCA) The contractor shall be responsible to the State for the acts and omissions of all subcontractors or agents and of persons directly or indirectly employed by such subcontractors, and for the acts and omissions of persons employed directly by the Contractor. No contractual relationships exist between any subcontractor and the State.

16. HOLD HARMLESS/INDEMNIFICATION

The contractor agrees to protect, defend, and save the State, and its elected and appointed officials, agents, and employees, while acting within the scope of their duties as such, harmless from and against all claims, demands, causes of action of any kind or character, including the cost of defense thereof, arising in favor of the contractor's employees or third parties on account of bodily or personal injuries, death, or damage to property arising out of services performed or omissions of services or in any way resulting from the acts or omissions of the Contractor and/or its agents, employees, representatives, assigns, subcontractors, except the sole negligence of the State, under this agreement.

17. REQUIRED INSURANCE

17.1 General Requirements. The contractor shall maintain for the duration of the contract, at its cost and expense, insurance against claims for injuries to persons or damages to property, including contractual liability, which may arise from or in connection with the performance of the work by the contractor, agents, employees, representatives, assigns, or subcontractors. This insurance shall cover such claims as may be caused by any negligent act or omission.

17.2 Primary Insurance. The contractor's insurance coverage shall be primary insurance as respect to the State, its officers, officials, employees, and volunteers and shall apply separately to each project or location. Any insurance or self-insurance maintained by the State, its officers, officials, employees, or volunteers shall be excess of the contractor's insurance and shall not contribute with it.

17.3 Specific Requirements for Commercial General Liability. The contractor shall purchase and maintain occurrence coverage with combined single limits for bodily injury, personal injury, and property

damage of $1,000,000 per occurrence and $2,000,000 aggregate per year to cover such claims as may be caused by any act, omission, or negligence of the Contractor or its officers, agents, representatives, assigns, or subcontractors.

17.4 Additional Insured Status. The State, its officers, officials, employees, and volunteers are to be covered and listed as additional insured's for liability arising out of activities performed by or on behalf of the contractor, including the insured's general supervision of the contractor; products and completed operations; premises owned, leased, occupied, or used.

17.5 Specific Requirements for Automobile Liability. The contractor shall purchase and maintain coverage with split limits of $500,000 per person (personal injury), $1,000,000 per accident occurrence (personal injury), and $100,000 per accident occurrence (property damage), OR combined single limits of $1,000,000 per occurrence to cover such claims as may be caused by any act, omission, or negligence of the contractor or its officers, agents, representatives, assigns or subcontractors.

17.6 Additional Insured Status. The State, its officers, officials, employees, and volunteers are to be covered and listed as additional insured's for automobiles leased, hired, or borrowed by the Contractor.

17.7 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be declared to and approved by the State agency. At the request of the agency either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the State, its officers, officials, employees, or volunteers; or (2) at the expense of the contractor, the contractor shall procure a bond guaranteeing payment of losses and related investigations, claims administration, and defense expenses.

17.8 Certificate of Insurance/Endorsements. A certificate of insurance from an insurer with a Best's rating of no less than A- indicating compliance with the required coverage has been received by the State Procurement Bureau, P.O. Box 200135, Helena, MT 59620-0135. The contractor must notify the State immediately, of any material change in insurance coverage, such as changes in limits, coverage, change in status of policy, etc. The State reserves the right to require complete copies of insurance policies at all times.

18. COMPLIANCE WITH WORKERS' COMPENSATION ACT

Contractors are required to comply with the provisions of the Montana Workers' Compensation Act while performing work for the State of Montana in accordance with 2005 Montana Laws, chapter 448, section 1, and sections 39-71-401, and 39-71-405, MCA. Proof of compliance must be in the form of workers' compensation insurance, an independent contractor's exemption, or documentation of corporate officer status. Neither the contractor nor its employees are employees of the State. This insurance/exemption must be valid for the entire term of the contract. A renewal document must be sent to the State Procurement Bureau, P.O. Box 200135, Helena, MT 59620-0135, upon expiration.

19. COMPLIANCE WITH MONTANA PREVAILING WAGE REQUIREMENTS

Unless superseded by federal law, Montana law requires that contractors and subcontractors give preference to the employment of Montana residents for any public works contract in excess of $25,000 for construction or nonconstruction services in accordance with sections 18-2-401 through 18-2-432, MCA, and all administrative rules adopted pursuant thereto. Unless superseded by federal law, each contractor shall ensure that at least 50% of the contractor's workers performing labor on a construction project are bona fide Montana residents. The Commissioner of the Montana Department of Labor and Industry has established the resident requirements in accordance with sections 18-2-403 and 18-2-409, MCA. Any and all questions concerning prevailing wage and Montana resident issues should be directed to the Montana Department of Labor and Industry.

In addition, unless superseded by federal law, all employees working on a public works contract shall be paid prevailing wage rates in accordance with sections 18-2-401 through 18-2-432, MCA, and all administrative rules adopted pursuant thereto. Montana law requires that all public works contracts, as defined in section 18-2-401, MCA, in which the total cost of the contract is in excess of $25,000, contain a provision stating for each

job classification the standard prevailing wage rate, including fringe benefits, travel, per diem, and zone pay that the contractors, subcontractors, and employers shall pay during the public works contract.

Furthermore, section 18-2-406, MCA, requires that all contractors, subcontractors, and employers who are performing work or providing services under a public works contract post in a prominent and accessible site on the project staging area or work area, no later than the first day of work and continuing for the entire duration of the contract, a legible statement of all wages and fringe benefits to be paid to the employees in compliance with section 18-2-423, MCA. Section 18-2-423, MCA, requires that employees receiving an hourly wage must be paid on a weekly basis.

Each contractor, subcontractor, and employer must maintain payroll records in a manner readily capable of being certified for submission under section 18-2-423, MCA, for not less than three years after the contractor's, subcontractor's, or employer's completion of work on the public works contract.

For current prevailing wage information visit the state website at:
http://erd.dli.mt.gov/laborstandard/wagehrprevail.asp

20. COMPLIANCE WITH LAWS

The Contractor must, in performance of work under this contract, fully comply with all applicable federal, state, or local laws, rules, and regulations, including the Montana Human Rights Act, the Civil Rights Act of 1964, the Age Discrimination Act of 1975, the Americans with Disabilities Act of 1990, and Section 504 of the Rehabilitation Act of 1973. Any subletting or subcontracting by the Contractor subjects subcontractors to the same provision. In accordance with section 49-3-207, MCA, the Contractor agrees that the hiring of persons to perform the contract will be made on the basis of merit and qualifications, and there will be no discrimination based upon race, color, religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin by the persons performing the contract.

21. INTELLECTUAL PROPERTY

All patent and other legal rights in or to inventions created in whole or in part under this contract must be available to the State for royalty-free and nonexclusive licensing. Both parties shall have a royalty-free, nonexclusive, and irrevocable right to reproduce, publish or otherwise use and authorize others to use, copyrightable property created under this contract.

22. OWNERSHIP AND PUBLICATION OF MATERIALS

The State (and the ordering agency) shall own working papers and end products, but the contractor may keep a copy. The State and the contractor agree that any interpretation of data or conclusions pertaining to this contract and task orders will be submitted for review to the State prior to release. It is further agreed that all public releases pertaining to this contract will be at the discretion of the State. The State must authorize the contractor in writing to release any information. Unless stated otherwise in this contract, upon termination of this contract, all information and data will become the property of the State. A copy may be kept by the contractor.

23. PATENT AND COPYRIGHT PROTECTION

23.1 Third Party Claim. In the event of any claim by any third party against the State that the products furnished under this contract infringe upon or violate any patent or copyright, the State shall promptly notify contractor. Contractor shall defend such claim, in the State's name or its own name, as appropriate, but at contractor's expense. Contractor will indemnify the State against all costs, damages, and attorney's fees that accrue as a result of such claim. If the State reasonably concludes that its interests are not being properly protected, or if principles of governmental or public law are involved, it may enter any action.

23.2 Product Subject of Claim. If any product furnished is likely to or does become the subject of a claim of infringement of a patent or copyright, then contractor may, at its option, procure for the State the right

to continue using the alleged infringing product, or modify the product so that it becomes non-infringing. If none of the above options can be accomplished, or if the use of such product by the State shall be prevented by injunction, the State will determine if the Contract has been breached.

24. CONTRACT TERMINATION

24.1 Termination for Cause. The State may, by written notice to the contractor, terminate this contract in whole or in part at any time the Contractor fails to perform this contract.

24.2 Reduction of Funding. The State, at its sole discretion, may terminate or reduce the scope of this contract, if available funding is reduced for any reason. (18-4-313(3), MCA)

25. STATE PERSONNEL

25.1 State Contract Manager. The State Contract Manager identified below is the State's single point of contact and will perform all contract management pursuant to section 2-17-512, MCA, on behalf of the state. Written notices, requests, complaints or any other issues regarding the contract should be directed to the State Contract Manager.

The State Contract Manager for this contract is:

Robert Oliver, Contracts Officer
Room 165 Mitchell Building
125 North Roberts
PO Box 200135
Helena MT 59620-0135
Telephone #: (406) 444-0110
Fax #: (406) 444-2529
E-mail: roliver@mt.gov

25.2 State Project Manager. Each using state agency or cooperative purchaser will identify a Project Manager in the project task order. The Project Manager will manage the day-to-day project activities on behalf of the State/Cooperative Purchaser.

26. CONTRACTOR PERSONNEL

26.1 Change of Staffing. Since qualifications of personnel were key in determining which offeror's were selected to be on this term contract, a written notification to the State Agency requesting services of any contractor changes of key personnel must be made prior to entering into negotiations to perform any specific work scope. Contractor shall replace such employee(s) at its own expense with an employee of substantially equal abilities and qualifications without additional cost to the Agency. If these staffing changes cause the contractor to no longer meet the qualifications stated herein, that firm will be removed from the service area of this term contract. Failure to notify the State Agency of staffing changes could result in the contractor being removed from the term contract listing and possible suspension from bidding on other State projects.

26.2 Contractor Contract Manager. The Contractor Contract Manager identified below will be the single point of contact to the State Contract Manager and will assume responsibility for the coordination of all contract issues under this contract. The Contractor Contract Manager will meet with the State Contract Manager and/or others necessary to resolve any conflicts, disagreements, or other contract issues.

The Contractor Contract Manager for this contract is:

C. Paul Callahan
1120 Cedar Street
Missoula, MT 59802
Telephone #: (406) 721-0354

Fax #: (406) 721-0355
E-mail: pcallahan@pbsj.com

26.3 Contractor Project Manager. The Contractor Project Manager identified below will manage the day-to-day project activities on behalf of the Contractor:

The Contractor Project Manager for this contract is:

C. Paul Callahan
1120 Cedar Street
Missoula, MT 59802
Telephone #: (406) 721-0354
Fax #: (406) 721-0355
E-mail: pcallahan@pbsj.com

27. CONTRACTOR PERFORMANCE ASSESSMENTS

The State may do assessments of the Contractor's performance. This contract may be terminated for one or more poor performance assessments. Contractor will have the opportunity to respond to poor performance assessments. The State will make any final decision to terminate this contract based on the assessment and any related information, the Contractor's response, and the severity of any negative performance assessment. The Contractor will be notified with a justification of contract termination. Performance assessments may be considered in future solicitations.

28. TRANSITION ASSISTANCE

If this contract is not renewed at the end of this term, or is terminated prior to the completion of a project, or if the work on a project is terminated, for any reason, the Contractor must provide for a reasonable period of time after the expiration or termination of this project or contract, all reasonable transition assistance requested by the State, to allow for the expired or terminated portion of the services to continue without interruption or adverse effect, and to facilitate the orderly transfer of such services to the State or its designees. Such transition assistance will be deemed by the parties to be governed by the terms and conditions of this contract, except for those terms or conditions that do not reasonably apply to such transition assistance. The State shall pay the Contractor for any resources utilized in performing such transition assistance at the most current rates provided by the contract. If there are no established contract rates, then the rate shall be mutually agreed upon. If the State terminates a project or this contract for cause, then the State will be entitled to offset the cost of paying the Contractor for the additional resources the Contractor utilized in providing transition assistance with any damages the State may have otherwise accrued as a result of said termination.

29. CHOICE OF LAW AND VENUE

This contract is governed by the laws of Montana. The parties agree that any litigation concerning this bid, proposal, or subsequent task order must be brought in the First Judicial District in and for the County of Lewis and Clark, State of Montana, and each party shall pay its own costs and attorney fees. (18-1-401, MCA)

30. SCOPE, AMENDMENT AND INTERPRETATION

30.1 Contract. This contract consists of 12 numbered pages, any Attachments as required, RFP # SPB07-1378O**,** as amended, and the Contractor's RFP response, as amended. In the case of dispute or ambiguity about the minimum levels of performance by the Contractor, the order of precedence of document interpretation is in the same order.

30.2 Entire Agreement. These documents contain the entire agreement of the parties. Any enlargement, alteration, or modification requires a written amendment signed by both parties.

31. EXECUTION

The parties through their authorized agents have executed this contract on the dates set out below.

DEPARTMENT OF ADMINISTRATION
STATE PROCUREMENT BUREAU
PO BOX 200135
HELENA, MT 59620-0135

BY: _____
(Name/Title)

BY: _____
(Signature)

DATE: _____

PBS&J
1120 CEDAR STREET
MISSOULA, MT 59802-3911

BY: _____
(Name/Title)

BY: _____
(Signature)

DATE: _____

Approved as to Legal Content:

_____
Legal Counsel (Date)
Agency: _____

Approved as to Form:

_____
Procurement Officer (Date)
State Procurement Bureau

PROPOSAL FOR

STREAM RESTORATION SERVICES

RFP NUMBER SPB07-13780

JUNE 19, 2007

PBS&J

PBS&J

June 19, 2007

Mr. Robert Oliver, Procurement Officer
State Procurement Bureau
Room 165, Mitchell Building
125 North Roberts
P.O. Box 200135
Helena, MT 59620-0135

RE: Proposal for Stream Restoration Services (Term Contract)
RFP Number: SPB07-1378O

Dear Mr. Oliver:

Highly-motivated, talented, and experienced. PBS&J presents a highly qualified team of professionals focused on providing the State of Montana with stream restoration services. We thoroughly understand this type of work and have the experiences, resources, and motivation to complete stream restoration projects in a timely and cost effective manner.

Our long-term interest and commitment to provide superior, client-focused service are based on providing you:

- A highly motivated and appropriately experienced local staff with considerable experience designing, permitting, and constructing stream restoration projects.
- A talented, efficient, and professional team led locally and supported by the full resources of our nationally recognized, full-service consulting engineering firm with more than 4,000 employees.
- An experienced staff immediately available to work with any State of Montana agencies requiring this type of expertise. Time and time again we have provided these services to our clients; this is proven by our past success and client satisfaction on similar projects.

PBS&J is dedicated to quality, client-service, and performing in an accurate, cost-effective, and responsive manner to exceed all of your expectations. We have, in place, excellent project delivery systems and we look forward to the opportunity of working with the State of Montana to provide its citizens with stream and riparian resources of the highest ecological integrity.

If you would like to further discuss our proposal, you can reach me at (406) 587-7275, ext. 225, or by e-mail at mrotar@pbsj.com.

Sincerely,
PBS&J

Michael Rotar, PE
Water Resources Engineer

3810 Valley Commons Drive • Suite 4 • Bozeman, MT 59718 • Telephone (406) 587-7275 • Fax (406) 587-7278

STATE OF MONTANA
TERM CONTRACT - REQUEST FOR PROPOSAL (RFP)

RFP Number:	RFP Title:
SPB07-1378O	STREAM RESTORATION SERVICES

RFP Response Due Date and Time:	Number of Pages: 1-40
Tuesday, June 19, 2007 2 p.m., Local Time	

ISSUING AGENCY INFORMATION

Procurement Officer:	Issue Date:
Robert Oliver	May 22, 2007

State Procurement Bureau General Services Division Department of Administration Room 165, Mitchell Building 125 North Roberts Street P.O. Box 200135 Helena, MT 59620-0135	Phone: (406) 444-2575 Fax: (406) 444-2529 TTY Users, Dial 711 Website: http://gsd.mt.gov/

INSTRUCTIONS TO OFFERORS

Return Sealed Proposal to:	Mark Face of Envelope/Package:
State Procurement Bureau General Services Division Department of Administration Room 165, Mitchell Building 125 North Roberts Street P.O. Box 200135 Helena, MT 59620-0135	RFP Number: SPB07-1378O RFP Response Due Date: June 19, 2007 Special Instructions:

IMPORTANT: SEE STANDARD TERMS AND CONDITIONS

OFFERORS MUST COMPLETE THE FOLLOWING

Offeror Name/Address:	Authorized Offeror Signatory:
PBS&J 1120 Cedar Street Missoula, MT 59802-3911	C. Paul Callahan, Vice-President (Please print name and sign in ink)
Offeror Phone Number: (406) 721-0354	**Offeror FAX Number:** (406) 721-0355

Offeror E-mail Address:
pcallahan@pbsj.com

OFFERORS MUST RETURN THIS COVER SHEET WITH RFP RESPONSE

DEPARTMENT OF ADMINISTRATION
GENERAL SERVICES DIVISION
STATE PROCUREMENT BUREAU
www.mt.gov/doa/gsd

BRIAN SCHWEITZER
GOVERNOR

STATE OF MONTANA

MITCHELL BUILDING, ROOM 165
PO BOX 200135

(406) 444-2575
(406) 444-2529 FAX
TTY Users-Dial 711

HELENA, MONTANA 59620-0135

June 14, 2007

STATE OF MONTANA
REQUEST FOR PROPOSAL ADDENDUM
RFP NO.: SPB07-1378O
TO BE OPENED: June 19, 2007
TITLE: STREAM RESTORATION SERVICES

ADDENDUM NO. 01

To All Offerors:

Attached are written questions received in response to this RFP. These questions, along with the State's response, become an official amendment to this RFP.

All other terms of the subject "Request for Proposal" are to remain as previously stated.

Acknowledgment of Addendum:

The offeror for this solicitation must acknowledge receipt of this addendum. This page must be submitted at the time set for the proposal opening or the proposal may be disqualified from further consideration.

I acknowledge receipt of Addendum No. 01.

Signed: _____

Company Name: PBS&J

Date: JUNE 15, 2007

Sincerely,

Robert Oliver, Contracts Officer

Section Number	Question/Answer
General	**Q 1.** Are there proceeding contracts to this solicitation? **A 1. No.**
General	**Q 2.** If so, who is/are the incumbent(s), what project(s) were awarded under that contract, what was the value of those project(s), and was the state satisfied with those projects? **A 2. There are no incumbents, the previous contracts expired in December 2005.**
General	**Q 3.** Was the maximum individual project value of the proceeding contract also $500,000? If not, why has the value changed? **A 3. No. The $500,000 value was established by the State Procurement Bureau to allow further competition for projects estimated to exceed this value.**
General	**Q 4.** What agencies are planning on using this contract mechanism? **A 4. Any resultant term contract(s) will be available to all state agencies and state approved cooperative purchasing organizations.**
General	**Q 5.** What are their projected budgets for these projects in the next two years (initial contract term)? **A 5. There is no project budget for any resultant term contract(s) that may be awarded from this solicitation. As a term contract there is no guarantee of usage, see section 3.0 of the RFP.**
General	**Q 6.** Does this term contract replace the Wetlands Legacy qualified vendor list? **A 6. No.**
General	**Q 7.** Should heavy equipment subcontractor rate sheets be included in our response? **A 7. Yes. Offerors should provide rate sheets or pricing for any cost they would typically bill for in performing the services described in this solicitation.**

Table of Contents

Introduction and Response to Request for Proposal

Introduction

PBS&J is pleased to submit this proposal to provide stream restoration services to the State of Montana. Our proposed team of professionals includes several highly regarded members of our Montana staff, along with selected construction subcontractors that we have worked with on numerous stream restoration projects around the state. We believe our team can provide the State of Montana with unparalleled capabilities and experience for a broad range of stream restoration services including feasibility analyses, project designs that are both creative and environmentally sensitive while also adhering to sound engineering principles, and project implementation using equipment operators experienced in this type of work along with experts in revegetation techniques. We have been leaders on stream restoration projects ranging from small private spring creeks to large river restoration projects (see **Sections 3 and 4** for more details).

For the past 47 years, PBS&J has provided consulting engineering, science, and resource management services to public and private clients. We are a recognized leader in developing solutions to today's complex engineering and science needs. PBS&J is consistently ranked by *Engineering News-Record* as one of the top engineering consulting firms in the nation. Our multi-service capability allows us to develop teams with broad-based experience that facilitate efficient project management to reduce time, cost, and risk for our clients. Because the technical resources of the entire firm are available to all divisions and offices, we bring world-class technology to every project. Our firm's history of completing projects on time, within budget, and in a professional manner has led to a business base consisting largely of repeat clients.

In February 2005, Land & Water Consulting, a well-known and respected Montana firm, merged with PBS&J. The merger of two firms with complimentary corporate cultures and professional expertise was a natural fit. Land & Water Consulting had long been one of the leading natural and water resources firms in Montana. Now under the PBS&J name, we continue our strong presence in Montana with a staff of 60 spread between 5 offices (Billings, Bozeman, Helena, Missoula, and Whitefish). Our construction subcontractors are located in Bozeman, Dillon, and Lincoln and have implemented stream restoration projects statewide.

Response to Request for Proposal

The information provided herein is provided in response to the State of Montana request for proposal (RFP) number SPB07-1378O: Term Contract – Stream Restoration Services. The services to be furnished under this contract include stream restoration design and implementation for various projects around the State of Montana. Services will be requested by, and provided to, state agencies and departments on a project-specific basis.

It is understood that the contract term is for a period of approximately 2 years, beginning on or about July 9, 2007, and ending June 30, 2009. Renewals of this contract, by mutual agreement of both parties, may be made at 2 year intervals, or any interval that is advantageous to the State of Montana. This contract, including any renewals, may not exceed a total of 7 years, at the option of the State of Montana.

In accordance with Section 4.1 of the RFP, this proposal follows the format of the RFP, with tabs used to separate each major section. Several of the major sections (**Sections 1 – 6**) do not require point-by-point responses from PBS&J; under these circumstances a single, comprehensive statement acknowledging the entire content of the specific section is provided.

Section 1:
Project Overview and Instructions

Section 1: Project Overview and Instructions

PBS&J understands and will comply.

PBS&J has thoroughly read and understands the contents of this section, including all subsections.
PBS&J has complied (or will comply) with all provisions of this section.

Section 2:
RFP Standard Information

Section 2: RFP Standard Information

PBS&J understands and will comply.

PBS&J has thoroughly read and understands the contents of this section, including all subsections.
PBS&J has complied (or will comply) with all provisions of this section.

Section 3:
Scope of Project

Section 3: Scope of Project

3.0 Background

PBS&J understands that the purpose of this solicitation is to establish a list of qualified contactors to provide stream restoration as defined in **Section 3.6 – Scope of Work**. As will be established in the following subsections of Section 3, PBS&J possesses the experience, knowledge, and qualifications to provide the State of Montana with high-quality stream restoration services.

3.1 Engineering Access

PBS&J is aware that engineering methodologies are not the emphasis of this RFP. Nonetheless, PBS&J understands that certain components of stream restoration projects may require engineering services. Our project team includes several professional engineers that are licensed to practice in the State of Montana. Furthermore, it is our expectation that consultation with representatives of the State will occur should engineering services be anticipated. Any engineering and/or land surveying services will be provided in accordance with the procurement procedures of 18-8-204, MCA.

3.2 General Selection Process

PBS&J understands the two-tier selection process to be used for contractor selection. Tier one consists of this RFP. Tier two will use a selection process to select a contractor for specific project tasks under a statement of work issued by the State agency requesting the services.

3.3 Contractor Selection Process

PBS&J has thoroughly read and understands the contents of this subsection. PBS&J has complied (or will comply) with all provisions of this subsection.

3.4 Contractor Responsibilities

PBS&J has thoroughly read and understands the contents of this subsection. PBS&J has complied (or will comply) with all provisions of this subsection.

3.5 Subcontractors

3.5.1 Equipment Operators

The PBS&J project team includes four heavy equipment subcontractors, each of whom are experienced in the construction of stream restoration projects. The four heavy equipment subcontractors are:

- Stream Works, Inc. (Lincoln, Montana)
- R.E. Miller and Sons, Inc. (Dillon, Montana)
- Troy's Excavation Service, LLC (Bozeman, Montana)
- Rowe Excavation (Dillon, Montana)

Subsection 3.5.3 includes a brief description of each company, their work experience, and staff qualifications.

3.5.2 Revegetation Specialists

PBS&J will use its own staff to perform riparian revegetation work. Please refer to **Subsections 3.6.6 and 4.1.2** for detailed descriptions of staff experience with riparian revegetation work.

3.5.3 Subcontractor Qualifications and Experience

The following is a summary of qualifications and project experience for each of the four proposed heavy equipment subcontractors. A list of specific construction equipment and corresponding hourly rates for each subcontractor is provided in **Section 5**.

Stream Works, Inc.
Address: P.O. Box 878
Lincoln, MT 59639
(406) 362-4727
Contact: Richard Thumma or Becky Garland, owners

Richard Thumma and Becky Garland, owners of Stream Works, Inc., are based in Lincoln, Montana. Their construction company has more than 25 years experience in stream restoration, fish habitat improvement, wetlands enhancement, road construction, reclamation, bridge building and irrigation systems. Mr. Thumma is an experienced excavator operator and has become a leader in this specialized field of stream restoration. Stream Works, Inc., provides a cost-effective product by using locally available natural materials and incorporating landowner's management objectives. Their clientele includes private individuals; non-profit conservation organizations; and local, state, and federal agencies.

- **Stream Restoration**: Stream Works, Inc., has restored many miles of streams and rivers throughout the northwest. Since 1988, they have completed more than 100 stream restoration, riparian, and fish habitat improvement projects including full stream restoration, alternative streambank stabilization, fish ladders, and vortex rock weirs. They understand the importance of the information gathered on hydrology, channel geometry, channel bed form, and surrounding land uses. In addition to their in-depth experience, the owners of Stream Works, Inc., have completed Dave Rosgen's Applied Fluvial Geomorphology Seminar, in Pagosa Springs, Colorado, and completed dozens of projects implementing Rosgen-type processes.

- **Fish and Aquatic Enhancement**: Following strict attention to design detail allows Stream Works, Inc., to implement effective fish and aquatic habitat improvements that take into consideration the complex nature of aquatic conditions. The proper placement of pool and riffle sequences coupled with riparian vegetation, woody debris, and overhead cover enhances spawning and rearing habitats within the restoration reach. A precisely constructed stream will exhibit a balanced range of hydraulic, geomorphic, and biological parameters resulting in habitat diversity and stream stability.

- **Wetland Enhancement**: Building dikes and dams for wetlands, wetland enhancements, and ponds has been a part of their job for last 20 years. From a drained wetland, to an old oxbow in the landscape, they have designed and constructed many wetland projects.

R.E. Miller and Sons, Inc.
Address: 15 Ramshorn Street
Dillon, MT 59725
(406) 683-2175
Contact: Tom Miller, owner

R.E. Miller and Sons is a full-service excavating firm located in Dillon, Montana, serving western Montana for the past 40 years. Early on, the company employed a qualified staff of dozer and dragline operators, completing numerous irrigation and water storage projects around the Dillon area. As the company grew, it expanded into road construction and site development and currently employs approximately 30 full time employees. The company continues to provide traditional excavating and construction services to both the private and public sector, with natural resource enhancement accounting for approximately sixty percent of their annual contracts. Resource enhancement work has included river restoration, fish habitat improvement, stream bank stabilization, pond construction, and wetland construction. The remainder of their workload is in irrigation, road construction, and site development.

Section 3: Scope of Project

- **Experienced Staff**: Working in and around water requires a high degree of ingenuity, adaptability, and experience. R.E. Miller and Sons has an outstanding reputation for providing quality construction and excavating services, and their strength lies in the skill and experience of their qualified staff, who are adaptable and flexible to the needs of their clients. The management staff continues to develop their knowledge of fluvial systems through professional symposia (Applied Fluvial Geomorphology - Wildland Hydrology Consultants and Living With Fluvial Systems - Dr. Donald R. Reichmuth) and independent research, and their operators have completed diverse projects related to fluvial systems and reclamation.

- **Project Experience**: The company has completed the construction of more than 50 ponds; several miles of stabilization on the Madison, Beaverhead, Ruby, Jefferson, Big Hole, Red Rock, and Gallatin Rivers; and trout habitat structures and improvements throughout southwestern Montana. They have also completed natural resource enhancement projects in western Montana, northern Idaho, and New Mexico. The company has completed projects with Inter-Fluve, Inc., Joe Urbani and Associates, Kingfisher Inc., Land & Water Consulting/PBS&J, and Donald R. Reichmuth.

- **Capabilities**: R.E. Miller and Sons has worked with a variety of stream forms and designed channels and has constructed spawning channels, bridges, fish traps, fish screens, and waterfowl habitat structures. They have recently purchased two track trucks which allow them to complete river, pond, and wetland work with less impact to vegetation. The company also specializes in seeding and landscaping equipment and numerous hand tools specifically designed for the intricacies of riparian construction. They have developed innovative techniques and specialized equipment for the installation and maintenance of erosion control fabric. In addition, they have installed a variety of pond liners and geotextiles. The diverse nature of their construction services has enabled them to develop skills not commonly found in the industry. Their operators combine experience with innovation when completing enhancement work.

Troy's Excavation Service, LLC
Address: 800 Canyon View Road
Bozeman, MT 59715
(406) 580-7969
Contact: Troy Hickman, owner

Troy's Excavation Service, LLC, (Troy's Excavation) is an excavation service based in Bozeman, Montana, since 2004. Troy's Excavation specializes in stream restoration and stabilization. Prior to starting his own business, Mr. Hickman worked for Mike Adkins Construction, based out of Livingston, Montana, for 8 years.

Listed below are some of the stream restoration/stabilization and aquatic habitat projects that Troy's Excavation has worked on since its inception:

- *DH Ranch, Edgar, Montana*: completed wetland mitigation projects. (May 2007)
- *Stewart Property, 9th Street Island, Livingston, Montana*: worked with PBS&J on construction of approximately 80 linear feet of bioengineered river bank stabilization and repair of one rock barb structure located on the Yellowstone River. (January 2007)
- *Mission Creek, Livingston, Montana*: completed a bank stabilization project (coir fabric-wrapped lift constructed over a rock toe). (December 2006)
- *Rocky Creek, Bozeman, Montana*: completed a bank stabilization project (coir fabric-wrapped lift constructed over rock toe) and placement of root wads. (November 2006)
- *Spring Creek, Dana/Nelson, Livingston, Montana*: constructed new spring creek channel. (Spring 2006)

Mr. Hickman worked on the following projects while employed with Mike Adkins Construction:

- *Fridley Creek/Murphy Ranch, Emigrant, Montana*: worked with PBS&J/Land & Water Consulting to replace a failed culvert under the Park Branch canal, thus re-connecting Fridley Creek with the Yellowstone River; constructed approximately 500 feet of new stream channel fro Fridley Creek between the Yellowstone River and the new culvert. (Summer 2004)
- *Arrow Peak, Livingston, Montana*: constructed a fish habitat. (Fall 2004)
- *Fleshman Creek, Livingston, Montana*: converted a large slough area back to stream channel in the lower reach of Fleshman Creek. (2003)

Rowe Excavation
Address: 1120 Nissen Lane
Dillon, MT 59725
(406) 683-6556
Contact: Kelly Rowe, owner

Kelly Rowe, the owner of Rowe Excavation, has been restoring streams and wetlands for 15 years. He started as an excavator operator and learned the subtleties of reconstructing natural systems. Since that time, he has grown his business into one with 7 full-time employees and more than $2 million worth of equipment. Rowe Excavation's specialty has always been stream and wetland restoration. The equipment used by the company is geared towards this kind of work. This includes 300-class excavators with thumbs, low ground-pressure bulldozers and tracked dump trucks.

3.6 Scope of Work

3.6.2 Design Expectations

PBS&J understands that the State of Montana (and specifically Fish, Wildlife, and Parks (MTFWP)) prefers stream restoration techniques that simulate natural conditions and facilitate natural channel processes. PBS&J takes into consideration the location and setting for each stream restoration project and strives to attain a thorough understanding of the natural channel processes at work in each specific project environment. Our staff have pioneered many innovative stream restoration and bank stabilization techniques on projects around Montana. We are always open to looking at new ways of achieving stream restoration objectives through application of new methods and technologies.

3.6.3 Experience with Relevant Public Contract Work

The PBS&J team has established positive working relationships and a high level of credibility with many state and federal agencies, local governments, conservation districts, tribal governments, and watershed groups and is experienced in working with these entities to achieve stream restoration project objectives. Specifically, we have worked closely with the U.S. Army Corps of Engineers, Montana State Department of Environmental Quality, MTFWP, and numerous floodplain administrators and conservation districts throughout Montana.

PBS&J has the following experience in the capacity of objectively reviewing other consultants' and agency projects:

- Ongoing contract with the Gallatin County Conservation District to provide technical review of 310 permit applications, which are required when a project will impact the bed or immediate banks of a stream.
- Statewide contract with MTFWP since 1995 to review 310 applications, through which we are often called on for technical review of stream and wetland project designs.
- Member and chairman of Future Fisheries Review Panel, on which we reviewed many consultant applications and stream restoration designs.

- Contracted with the Montana Department of Natural Resources and Conservation to review funding requests for the Renewable Grant and Loan Program.
- Contracted by the Montana Department of Transportation to monitor some 35 wetland mitigation projects throughout the state from 2001-2006 (PBS&J has recently been selected for another 3-year term). In this capacity, we provide objective review of projects designed and constructed by agencies and other consultants, providing recommendations for improvement where necessary.

Each of these assignments has provided PBS&J an opportunity to have substantive input regarding the nature and direction of stream and aquatic restoration efforts within the State of Montana. PBS&J has developed a solid reputation among state agencies as a "go-to" expert in the field of stream restoration and is widely regarded as the authority for application of federal, state, and local regulations and permitting requirements related to work in stream channels and other aquatic environments.

PBS&J has literally written the book on natural channel design in Montana. PBS&J staff authored *Montana Stream Permitting*, a manual designed to provide guidance to conservation district supervisors in making decisions on 310 permits. The manual presents information on stream form and function, management, irrigation structures, soft and hard engineering methods, and the 310 permitting process. The text contrasts both bioengineering and traditional hard engineering methods, and emphasizes proper selection of methods in light of channel process. This document will be used to train conservation district supervisors, MTFWP, and Natural Resources Conservation Service staff in technical aspects of stream projects and permitting issues.

Table 4.2 (refer to **Section 4.1.2**) provides a summary of recent project experience. Many of these projects were completed for State agencies or other public entities.

3.6.4 Experience with Recent Landowner Projects

PBS&J (previously Land & Water Consulting) has a long history of providing high quality stream and aquatic habitat restoration services to private landowners throughout Montana. Much of this work has focused on fish habitat improvement and stream channel and bank stabilization projects. A number of our private landowner projects have been designed to address specific mitigation requirements for previous or proposed impacts to aquatic habitats. Our strong background with the permitting process for stream restoration projects, coupled with substantial experience in natural channel processes, design, and construction, make the PBS&J team uniquely qualified to offer our private clients a broad spectrum of creative and functional stream and aquatic restoration solutions that adhere to regulatory requirements and meet landowner goals.

Table 4.2 (refer to **Section 4.1.2**) provides a summary of recent project experience. Many of these projects were completed for private landowners.

3.6.5 Diverse Experience with Stream Restoration and Fish Habitat Improvement Projects

PBS&J is well-versed in the requirements and process associated with design and implementation of stream restoration projects in Montana. Our team is experienced in all phases of these projects including preliminary site identification, landowner contact, water rights investigation, biological and physical baseline assessments, conceptual design, agency presentation and credit negotiation, final design, permitting, bid package preparation, construction oversight, and post-project monitoring. Our fluvial geomorphologists, hydrologists, engineers, and vegetation/wetland specialists have successfully completed restoration design for more than 300 miles of streams and rivers in the northern Rockies during the last 15 years. We have championed state-of-the-art techniques that accommodate natural channel processes and offer greater cost-effectiveness on restoration projects.

PBS&J can provide the following services that are specifically applicable to stream restoration projects:

- Watershed assessment and restoration feasibility studies
- Quantitative fluvial geomorphology
- Channel and bank stability assessment
- Natural channel design and review
- Hydraulic and sediment transport modeling (e.g., HEC-RAS)
- Habitat enhancement structures
- Irrigation structure design and review
- Fish screens, fish ladders, and fish barriers
- Bioengineering and traditional civil engineering (several staff members proposed for this project are licensed professional engineers in Montana)
- Water rights (new permits or adjudication)
- Revegetation
- Wetland delineation and mitigation
- AutoCAD/geographic information systems engineering and mapping products
- Permitting, biological assessments, environmental assessments, and environmental impact statement documents
- Construction management and oversight

Table 4.2 (refer to **Section 4.1.2**) provides a summary of recent project experience. In **Section 4.1.3**, we have highlighted several of our recent stream restoration projects including detailed project descriptions and photos.

3.6.6 Staff Qualifications and Office Locations

PBS&J's staff in Montana consists of 60 professionals spread between 5 strategically located offices (Billings, Bozeman, Helena, Missoula, and Whitefish). Staff located in the Bozeman and Missoula offices will manage the stream restoration services that will be provided under this contact. Many of our staff, and specifically those key members assigned to provide stream restoration services under this contract, have nearly 20 years of experience in natural channel design, in-stream and riparian enhancement for fisheries, hydrology and hydraulics, fluvial geomorphology, water resources engineering, plant ecology, wetland/soil science, water rights, and construction technology and management.

Each of the key personnel in this proposal have been trained in the Rosgen Stream Classification system and have used the Rosgen system professionally for more than 10 years, as well as other quantitative methods to characterize streams and geomorphic processes and evaluate channel stability. According to project needs, we incorporate both channel classification (Rosgen levels I-IV) and quantitative geomorphology and modeling. Our staff can provide assessments of riparian condition, wetland function, fish habitat, sediment sources, bank stability, and other widely used techniques to quantify geomorphic conditions.

Our staff has conducted comprehensive re-naturalization feasibility studies that interpret channel process on both a large scale and site-specific scale. Our understanding of fluvial processes involves appropriate survey, quantitative channel morphology, hydraulic modeling, photo-interpretation, and channel classification. We can provide detailed, statistically rigorous studies of river mechanics, or we can provide pragmatic, rapid assessments of stream condition to meet project needs.

Brief bio-sketches, summarizing education, work experience, and specialized skills, are provided for all key staff members in **Section 4.1.2**. Detailed resumes for key staff members are also included in Appendix A.

3.6.7 Working Knowledge of Modern Stream and Fish Habitat Restoration Practices

Our understanding of habitat restoration principles has developed with the philosophy of emphasizing natural process and channel dynamics over imposed structural solutions. Our professionals seek to understand site-specific channel process and provide enhancements that are consistent with long-term channel health and integrity.

Our design approach includes interpretation of fluvial geomorphology and channel dynamics, quantitative design criteria, bioengineering and habitat features, global positioning system or total station site survey and stakeout, wetland delineations, cost estimates, and pragmatic implementation recommendations. Our emphasis on natural channel process, combined with bioengineering/engineering, revegetation, and related water resources disciplines, enables us to evaluate the most challenging channel design problems. Our designs have been extensively peer-reviewed and approved by agency staff and private sector consultants.

We have constructed a wide variety of habitat features including vanes, barbs, weirs, woody debris structures, undercut banks, brush layers, spawning channels, plunge pools, and scour features. The heavy construction subcontractors that we propose to use are all well-versed in the implementation of these types of stream restoration features.

The majority of our channel design projects are designed, permitted, and constructed under supervision of PBS&J staff; therefore, we have an excellent understanding of the complete process required to successfully implement challenging restoration projects. We recognize that balancing resource objectives, landowner and agency requirements, funding sources, and contractor limitations is an inherent and critical skill to complete stream and river projects. This understanding enables us to realistically evaluate proposed projects, and provide pragmatic and workable solutions to solving challenges in the river environment.

Section 4: PBS&J Qualifications/ Informational Requirements

Section 4: PBS&J Qualifications/Informational Requirements

4.1.1 References

PBS&J provides the following references that have used, or are currently using, services of the type proposed in this RFP. PBS&J understands that these references may be contacted to verify our ability to perform the contract. We are providing three agency (government) references and five landowner references are provided.

Agency Reference 1

Client Name: Montana Department of Transportation (MDT)
Environmental Services Bureau

Contact Information: Lawrence (Larry) Urban, wetland mitigation specialist
(406) 444-6224
lurban@mt.gov

Dates of Service: ongoing; services have been provided since 1999

Location of Services: statewide (Montana)

Description of Services: *Kleinschmidt Creek, near Ovando, Montana*. Stream restoration, fish habitat enhancement, and wetland mitigation (1998 – 2001, monitoring continued until 2006).

Statewide wetland monitoring. PBS&J has provided MDT with monitoring services for wetland mitigation sites for the past 6 years under a term contract. Recently, PBS&J was again selected to provide wetland monitoring services for a third, 3-year term (through 2009).

Murphy Ox Yoke Ranch, Emigrant, Montana. PBS&J has prepared preliminary stream and wetland mitigation designs for the MDT (2004 – present). The project is primarily intended to mitigate for wetland impacts associated with the MDT East River Road highway project, with any leftover wetland credits to be held in reserve for application against future MDT highway projects in the Upper Yellowstone River watershed.

Members of Project Team Involved and Their Roles: Jeff Berglund – Project Manager, MDT wetland monitoring
Cindy Hoschouer, Greg Howard – MDT wetland monitoring
Paul Callahan, Dan March – Kleinschmidt Creek restoration
Michael Rotar, Dan March – Murphy Ranch stream/wetland restoration

Agency Reference 2

Client Name: Montana Department of Justice
Natural Resource Damage Program

Contact Information: Gregory Mullen, environmental impact specialist
(406) 444-0228
gmullen@mt.gov

Dates of Service: ongoing; services have been provided since 2005

Location of Services: Warm Springs Creek, near Anaconda, Montana

Description of Services: PBS&J developed channel designs and cost estimates for various reaches of Warm Springs Creek between Anaconda and the confluence with the Clark Fork River.

Members of Project Team Involved and Their Roles:
Bruce Anderson – project manager
Dan Hoffman – geomorphology, river design

Agency Reference 3

Client Name: Montana Department of Natural Resources and Conservation
Conservation Districts Bureau

Contact Information: Laurie Zeller, resource specialist
(406) 444-6669
lzeller@mt.gov

Karl Christians, Conservation District Specialist
(406) 444-3022
kchristians@mt.gov

Dates of Service: ongoing; services have been provided since 1997

Location of Services: Montana (statewide)

Description of Services: PBS&J has provided technical assistance to Montana Conservation Districts for the past 10 years. These services have included assisting conservation district personnel with review of 310 permit applications and providing education services to conservation districts in the form of seminars and through a publication titled *Montana Stream Permitting*—a guide to assist conservation district personnel with 310 permitting.

Members of Project Team Involved and Their Roles: Paul Callahan, Dan March, Michael Rotar, Bruce Anderson – Conservation Districts technical assistance

Landowner Reference 1

Client Name: Stewart Property, Livingston, Montana

Contact Information: Frances Stewart, landowner
(406) 570-7605

Dates of Service: May 2006 to January 2007

Location of Services: Yellowstone River, Livingston, Montana

Description of Services: PBS&J provided design, permitting, and construction oversight services for a bank stabilization project on the Yellowstone River (9th Street Island) within Livingston, Montana.

Members of Project Team Involved and Their Roles:
Michael Rotar – project manager
Troy's Excavation Service, LLC – heavy equipment subcontractor

Landowner Reference 2

Client Name: The Yellowstone Mountain Club

Contact Information: Bob Sumpter, vice-president - development
(406) 995-7385

Dates of Service: ongoing; services have been provided since 2002

Location of Services: Yellowstone Mountain Club near Big Sky, Montana

Description of Services: PBS&J has provided stream and wetland mitigation design, construction, planting, and monitoring services to Yellowstone Mountain Club to insure compliance with a consent decree between the Yellowstone Mountain Club and the Environmental Protection Agency.

Members of Project Team Involved and Their Roles: Paul Callahan, Michael Rotar, Jeff Berglund, Cindy Hoschouer, Greg Howard – stream and wetland restoration/mitigation design, construction, and monitoring.

Landowner Reference 3

Client Name: Big Sky, Montana, area stream and wetland restoration projects

Contact Information: Steve Brown, attorney
Garlington, Lohn, and Robinson
(406) 523-2558
srbrown@garlington.com

Dates of Service: ongoing; services have been provided since June 2002

Location of Services: Big Sky, Montana area

Description of Services: Wetland delineation, stream restoration and monitoring.

Members of Project Team Involved and Their Roles: Jeff Berglund, Cindy Hoschouer, Greg Howard – wetland delineation, restoration, monitoring
Paul Callahan, Michael Rotar – stream restoration design and construction

Landowner Reference 4

Client Name: Bar One Ranch, Alberton, Montana
Al Barone, Owner

Contact Information: John E. Smith
John E. Smith Law Offices
(406) 721-0300

Dates of Service: ongoing; services have been provided since 2005

Location of Services: Alberton, Montana (Ninemile Creek)

Description of Services: PBS&J has provided stream and wetland restoration and mitigation design and construction services to re-construct a complex stream and riparian ecosystem that had been impacted by the construction of several open-water ponds.

Members of Project Team Involved and Their Roles: Paul Callahan, John DeArment, Michael Rotar – stream and wetland restoration

Landowner Reference 5

Client Name:	Tom Rue, private landowner
Contact Information:	Tom Rue, landowner (406) 793-5050
Dates of Service:	July 1997 to 2006
Location of Services:	Kleinschmidt Creek, near Ovando, Montana
Description of Services:	Stream restoration, fish habitat enhancement, and wetland mitigation (1998-2001, monitoring continued until 2006). PBS&J staff facilitated extensive negotiations with the landowner and MDT regarding easement language.
Members of Project Team Involved and Their Roles:	Paul Callahan – project manager and landowner relations Jeff Berglund, Cindy Hoschouer – wetland monitoring

4.1.2 Resumes/Company Profile and Experience

For the past 47 years, PBS&J has provided engineering and environmental science services to public and private clients. We are a recognized leader in developing solutions to today's complex engineering and science needs. PBS&J is consistently ranked by *Engineering News-Record* as one of the top engineering consulting firms in the nation. Our multi-service capability allows us to develop teams with broad-based experience that facilitate efficient project management to reduce time, cost, and risk for our clients. The technical resources of the entire firm are available to all divisions and offices, with the potential for a high-degree of innovation and creativity on every project. Our firm's history of completing projects on time, within budget, and in a professional manner has led to a business base consisting largely of repeat clients.

Within Montana, PBS&J has been doing business under that name for more than 2 years. In February 2005, Land & Water Consulting, a well-known and respected Montana firm, merged with PBS&J. The merger of two firms with complementary corporate cultures and professional expertise was a natural fit. Prior to the merger with PBS&J, Land & Water Consulting had been doing business in Montana for roughly 20 years. Now under the PBS&J name, we continue our strong presence in Montana with a staff of 60 spread between 5 offices (Billings, Bozeman, Helena, Missoula, and Whitefish). Our construction subcontractors are located in Bozeman, Dillon, and Lincoln, and have implemented stream restoration projects statewide.

Many of our staff, and specifically those key members assigned to provide stream restoration services under this contract, have nearly 20 years of experience in natural channel design, in-stream and riparian enhancement for fisheries, hydrology and hydraulics, fluvial geomorphology, water resources engineering, plant ecology, wetland/soil science, water rights, and construction technology and management.

Each of the key personnel in this proposal have either been trained in the Rosgen Stream Classification system, or have used the Rosgen system professionally, as well as other quantitative methods to characterize streams and geomorphic processes and evaluate channel stability. According to project needs, we incorporate both channel classification (Rosgen levels I-IV) and quantitative geomorphology and modeling. Our staff can provide assessments of riparian condition, wetland function, fish habitat, sediment sources, bank stability, and other widely used techniques to quantify geomorphic conditions.

Several of our key staff members assigned to this project have extensive experience providing natural resource agencies with educational services related to stream permitting as well as natural stream function and processes. Michael Rotar, our proposed project manger, has taught short-courses on process-based channel design and has authored several sections of the *Washington Integrated Streambank Protection Guidelines* (2003).

Section 4: Offeror Qualifications/ Informational Requirements

Brief biographies of the key PBS&J personnel who would work on this project are provided below. **Table 4.1**, on page 17, includes a comprehensive list of key personnel as well as other professional staff that may contribute to providing stream restoration services. Complete resumes for key personnel can be found in **Appendix A**.

Michael Rotar, PE, CFM
Water Resources Engineer

- Montana P.E.
- Certified Floodplain Manager (CFM)

Mr. Rotar has 16 years of professional experience in the areas of river and riparian restoration design, sediment transport analysis, bioengineered streambank stabilization, urban stormwater management, wetland mitigation design, and construction management. He has applied this expertise to a broad spectrum of water resource projects including channel relocation, aquatic and riparian habitat restoration, flood control and mitigation, and wetland design for water quality improvement. Mr. Rotar has led large-scale channel design efforts and provided construction oversight in a variety of environments, ranging from highly confined urban areas to severely disturbed, mined drainages. Mr. Rotar participated in the development of course materials, and classroom/field instruction, for a five-day short course titled *Process Based Channel Design*. The course provided comprehensive training on the design and implementation of process-based stream restoration projects.

Paul Callahan
Senior Hydrologist/Watershed Planner and Northwest District Director

- PBS&J Northwest District Director
- B.S., Chemistry
- M.S., Forest Hydrology

Mr. Callahan's primary responsibilities are related to stream restoration, fish habitat enhancement, and watershed modeling and analysis. He has extensive experience at all phases of project management including development of proposal and budget documents, project design, subcontractor coordination, and on-the-ground project oversight. He is a specialist in large- and small-scale watershed analysis related to the National Environmental Policy Act (NEPA) process and total maximum daily loads (TMDL). Thorough knowledge of modeling and design requirements for 404 permits and other similar state and county permits. Design expertise includes hydraulic modeling using HEC-RAS and fluvial geomorphic relationships to establish stable stream and river channels with improved fish habitat. Recent projects include design and construction oversight on the restoration of more than 16,500 feet of stream channels, TMDL development for Swan Lake, the Little Blackfoot River and three other waterbodies, landscape-scale watershed analysis for the Thompson River watershed in western Montana and the Fiddle Creek watershed in Idaho, and sediment analysis for the Salmon River road reconstruction project in Riggins, Idaho. He has a demonstrated ability to deal effectively with landowners, clients, and regulatory entities.

Dan March, PE, CFM
Hydraulic Engineer

- Montana P.E.
- Certified Floodplain Manager (CFM)

Mr. March has more than 18 years of progressive project experience. He has strong applied skills in engineering design, with extensive experience in solving hydrologic and hydraulic analysis/design problems. His education, design, and construction experience includes hydrological and hydraulic analysis, bridge scour analysis, irrigation control, structure design, stream bank stabilization, stream restoration, wetland mitigation, erosion control measures, flood control measures, permitting (310, 404, floodplain, etc.), sediment modeling, sediment ponds, and stormwater conveyance systems. He has extensive experience with hydrological and hydraulic analysis/design as well as with environmental site assessments and remediation. Computer software capabilities for modeling/design include AutoCAD, Softdesk, TR-55, TR-20, HEC-RAS, XP-SWMM, SAM and PLUME. Mr. March has been the project manager and engineer for numerous PBS&J stream restoration projects.

Dan Hoffman
Hydrologist/Fluvial Geomorphologist

- B.S., Resource Conservation
- M.S., Geology

Mr. Hoffman is a fluvial geomorphologist/hydrologist with PBS&J's water resources division. His range of experience includes fluid mechanics, ground and surface water hydrology, fluvial and hillslope geomorphology, channel design and stream restoration. With a strong background in fluvial processes, he specializes in numerical and analytical approaches to sediment transport modeling, computational fluid dynamics, and open channel hydraulics.

Rich McEldowney, PWS
Environmental Scientist

- B.S., Wildlife Biology
- M.S., Rangeland Ecosystem Science

Mr. McEldowney, a senior environmental scientist and riparian/wetland ecologist, has more than 11 years of experience in numerous wetland delineations, wetland functional assessments, stream and wetland mitigation designs and plans, conservation and wetland banking, wetland findings, NEPA documentation, riparian mapping and management, stream ecosystems, water-quality monitoring and reporting, vegetation mapping, plant and animal surveys including threatened and endangered species, aerial photo interpretation, and noxious weed management throughout Montana, Wyoming, Idaho, Utah, Colorado, and South Dakota. Mr. McEldowney is a certified professional wetland scientist (PWS) and has completed levels 1 through 4 of the Rosgen short courses on fluvial geomorphology and river assessment and monitoring. He is certified by the U.S. Fish and Wildlife Service as R-6 to conduct presence/absence surveys for Ute ladies'-tresses orchid.

Cindy Hoschouer
Plant Ecologist

- B.S., Land Resources and Horticulture

Ms. Hoschouer has more than 18 years of experience providing wetland, vegetation, and reclamation services to government agencies and private industry. Her areas of expertise include managing and implementing field projects requiring vegetation designs and monitoring including mined land reclamation. She also specializes in riparian wetland restoration throughout Montana, Idaho, Colorado and New Mexico. She conducts ecological resource inventories, threatened and endangered species surveys, rangeland/forest community surveys/assessments, and vegetation reference site recovery monitoring. Ms. Hoschouer has managed and conducted vegetation field surveys for environmental assessment projects in compliance with NEPA and Montana Environmental Policy Act guidelines. During the past 12 years, she has provided vegetation assistance in the remedial investigation and feasibility studies for Silver Bow Creek and the Upper Clark Fork River basin. She has conducted wetland delineations since 1990 throughout the Intermountain West. This work includes document preparation, 404 permitting, agency negotiations, preparation of mitigation plans and refinement of project designs.

Greg Howard
Wetland/Vegetation Specialist

- B.A., Botanical Sciences

Mr. Howard has 11 years of experience in performing vegetation analyses and mapping, botanical identification, revegetation prescriptions, wetland delineation, mitigation design, and permitting. He also assists with implementation of wetland restoration, native plant, and land restoration projects, which includes oversight of seed collection projects, propagation, construction activities, and plant installation. This included botanical identification, vegetation analysis, mapping, seed collection, and plant installation for a variety of clients including the National Park Service, state agencies, and the mining industry. He also has experience with identifying forbs, grasses, and shrubs located within project boundaries.

Section 4: Offeror Qualifications/ Informational Requirements

Jeffrey Berglund, PWS
Senior Wetland Scientist

- B.A. Biology
- Professional Wetland Scientist

Mr. Berglund is a program manager and senior wetland scientist/wildlife biologist with more than 20 years of federal, state, and private-sector experience in the design and completion of wetland delineations and functional assessments; vegetation and wildlife baseline studies; wetland mitigation plans; biological assessments; biological evaluations; species management plans; and biological sections (wetlands, wildlife, vegetation, fisheries) of numerous environmental documents including environmental impact statements, environmental assessments, environmental impact reports, environmental checklists, and categorical exclusions. He authored the Montana wetland functional assessment method for MDT and the Montana Interagency Wetland Group, now in use throughout Montana and in several other states. He is a certified wildlife biologist and certified professional wetland scientist, as evaluated and approved by the Wildlife Society and the Society of Wetland Scientists.

Marjorie Wolfe, PE
Water Resources Engineer

- Montana P.E.
- Certified Floodplain Manager (CFM)

Ms. Wolfe is a project manager for PBS&J's water resources program. Throughout her career at PBS&J, Ms. Wolfe has proved a standout project manager with an innovative, enthusiastic leadership style that inspires confidence in clients and staff alike. Her success in blending the personal with the professional is evidenced by her status as the "go-to" project manager for some of PBS&J's most politically and socially sensitive water resource projects. These projects often involve complex interagency coordination, resolving stakeholder controversy, and reconciling multiple project objectives. She has experience in irrigation systems, fish passage, hydraulic structures, stream and wetland restoration, and environmental site clean up. Some of her current projects include bridge and dam replacements, fish passage projects, and a waterfall garden design. As a CFM, Ms. Wolfe has developed an intimate understanding of regulatory issues related to floodplain restoration and development. In early 2006, Marjorie opened the Portland, Oregon, office of PBS&J. However, she continues to work with numerous clients, and on several projects, here in Montana.

Demian Ebert
Fisheries and Wildlife Biologist

- B.A., Biology

Mr. Ebert has more than 14 years of professional experience managing and conducting fisheries and wildlife investigations in northern California. His responsibilities include preparing environmental analyses for development plans and projects, endangered species evaluations, field investigations, state and federal permitting, Endangered Species Act consultations, management plans, project management, and mitigation monitoring. He has extensive experience in preparing technical documents that evaluate potential project impacts and present mitigation/monitoring and management plans to minimize effects on natural resources. Mr. Ebert is also skilled in conducting evaluations of impacts to fisheries resources potentially resulting from operational changes to complex water projects. This includes development of analysis methodologies, data management, and monitoring to assess impacts from multiple sources. He has worked as an integral team member to ensure that data generated by hydrologic models was accurate and adequate for evaluation of effects on fisheries resources.

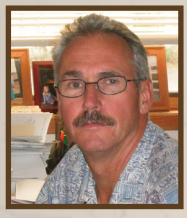
Bruce Anderson
Senior Hydrologist/Principal

- B.A., Biology
- M.S., Forest Hydrology

Mr. Anderson manages surface water hydrology projects including hydraulic modeling, natural channel design and stream restoration, sediment transport, fluvial geomorphology, water quality monitoring, fisheries enhancement, irrigation structures, water yield, and related projects. He has lead many natural channel design and design-build projects including recent channel restoration feasibility studies for 30 miles of streams in western Montana. These projects incorporated a rigorous resource analysis and engineering approach using survey-grade global positioning systems (GPS), HEC-RAS and sediment transport modeling, quantitative geomorphology, riparian condition, and fish habitat analysis, water rights, and geographic information systems, resulting in proposed channel design alternatives that included alignment and cross sections, revegetation, construction sequencing, and detailed engineering cost estimates.

Section 4: Offeror Qualifications/ Informational Requirements

Roger Austin, PLS
Professional Surveyor



- Montana PLS
- Certified Floodplain Manager (CFM)

Mr. Austin is a professional land surveyor with more than 30 years of experience in providing boundary surveys, general land office public domain breakdown, certificates of survey, subdivision and related utility plans, and floodplain studies. His background also includes field supervisor/crew coordination; construction stakeout; hydrographic, geodetic, environmental, and topographic surveys; and field supervision and quality control/quality assurance for total station and GPS surveys. Throughout his career, he has worked with civil engineers, land surveyors, hydrologists, and general contractors.

Table 4.1: PBS&J Key Personnel and Professional Staff

Personnel	Position	Expected Participation In Stream Restoration Services
(2) Michael Rotar, PE, M.S.	Water Resources Engineer	Primary
(1) Paul Callahan, M.S.	Senior Hydrologist, District Director	Primary
(2) Dan March, PE, M.S.	Hydraulic Engineer	Primary
(1) Dan Hoffman, M.S.	Hydrologist/Fluvial Geomorphologist	Primary
(2) Rich McEldowney, M.S.	Riparian/Wetland Scientist	Primary
(2) Cindy Hoschouer, B.A.	Wetland/Vegetation Specialist	Primary
(1) Greg Howard, B.A.	Vegetation Specialist	Primary
(4) Jeff Berglund, B.A.	Senior Wetland Scientist, Principal	Primary
(5) Marjorie Wolfe, PE, B.S.	Water Resources Engineer	Primary
(5) Demian Ebert, B.A.	Fisheries and Wildlife Biologist	Primary
(1) Bruce Anderson, M.S.	Senior Hydrologist, Principal	Primary
(1) Roger Austin, PLS	Professional Licensed Surveyor	Primary
(1) Michelle Arthur, M.S.	GIS Specialist	As Needed
(1) Jess McGee, PE, M.S.	Civil Engineer	As Needed
(1) Laura Lundquist, M.S.	Hydrologic Technician/Watershed Specialist	As Needed
(1) John DeArment, M.S.	Watershed Specialist	As Needed
(1) Barry L. Dutton, M.S.	Certified Prof. Soil Scientist, Principal	As Needed
(1) Karl Uhlig, B.S.	Water Rights Specialist, Fisheries	As Needed
(1) Charles Vandam, AICP	Environmental Planner, Sr. Environmental Scientist, Principal	As Needed
(1) Seth Jarsky, B.S.	Senior Environmental Technician	As Needed
(2) Sarah Ho, PE, B.S.	Hydraulic Engineer	As Needed
(2) Jeff Dunn, M.S.	Watershed Specialist	As Needed
(3) Carlo Arendt, M.S.	Hydrogeologist	As Needed
(3) Ed Spotts, M.S.	Senior Environmental Scientist	As Needed
(4) Gary Ingman, B.A.	Sr. Biologist/Watershed Scientist, Principal	As Needed
(4) Mark Traxler, B.S.	Biologist/Wetland Scientist	As Needed

Office Location Key: (1) Missoula; (2) Bozeman; (3) Whitefish; (4) Helena; (5) Portland, OR

4.1.3 Ability to Meet Supply Specifications

4.1.3.1 Experience

The following projects are similar in scope to the stream restoration services that will be provided under this contract. They are being highlighted to illustrate PBS&J's ability to perform all tasks associated with the design, permitting, and construction of stream restoration projects. All projects were constructed within the last 5 years with the exception of the Camp Creek and Kleinshmidt Creek projects, which were constructed 6 years ago. **Table 4.2** contains descriptions of additional representative projects (both agency and private clients) either currently in progress or completed in the last 3 years by PBS&J.

Kleinschmidt Creek Stream and Wetland Restoration

PBS&J (Land & Water) completed three separate restoration projects on Kleinschmidt Creek near Ovando, Montana. The first 2 phases took place in 1998 and 2000, respectively. The last (and largest) phase was completed in 2001 with monitoring continuing until 2006.

Kleinschmidt Creek – before restoration

Land & Water staff identified the project as a potential for mitigation, negotiated with the landowner and facilitated a complete mitigation agreement between USACE and MDT. The planning steps for this project included:

- Extensive negotiations with USACE over performance standards and credit ratios. The negotiations hinged on the definition of the phrase "substantially degraded" in the Code of Federal Regulations that guide the credit process.
- Extensive negotiations with the landowner and MDT on easement language.
- Extensive negotiations with FWP on Section 6 certification to allow the project to avoid lengthy review under the Endangered Species Act.
- 404, 310, and 318 permitting.

Kleinschmidt Creek – two months after restoration

The actual work involved more than 2 miles of channel restoration and fish habitat enhancement, more than 20 acres of restored or enhanced wetlands, and complete revegetation of the site. The pre-existing creek was overwidened and had become a major source of whirling-disease-carrying tubifex worms to the Blackfoot River system. After the project was completed, habitat for tubifex worms nearly disappeared and the creek has become an important spawning stream for brown trout.

Camp Creek Stream and Wetland Restoration

The Camp Creek project involved more than 3 years of planning, landowner negotiations, and design. PBS&J (Land & Water) completed the design on schedule and within budget in the spring of 2001. The project was constructed under contract with MDT in 2000 and 2001.

More than 2 miles of the Camp Creek channel and floodplain was reconstructed as part of this project.

Camp Creek – before

PBS&J was responsible for all phases of this project design including:

- Channel stabilization analysis
- Sediment transport modeling
- GPS topographic survey
- Wetland mitigation design
- Negotiations with landowners
- Wetland delineation
- Revegetation specifications
- Permitting and Endangered Species Act consultation
- Construction plans specifications
- Construction oversight

Camp Creek – after

Harvey Creek Stream and Wetland Restoration Project

The Harvey Creek project was completed for FWP in 2003. It involved a 1,500 foot reach that had been previously straightened. The primary objective was to improve spawning for Clark Fork River trout. However, several acres of floodplain wetland were restored as a result of the new meandering channel. PBS&J (Land & Water) provided all survey, hydraulic, and revegetation design services. Our staff also conducted all construction oversight and revegetation implementation.

Harvey Creek – before

Harvey Creek – after

Harvey Creek – willow regeneration

East Fork Bitterroot River Channel and Floodplain Restoration

As mitigation for fisheries impacts associated with the Sula North-South highway project, MDT reactivated a meander of the East Fork Bitterroot River. PBS&J's (Land & Water) team of hydrologists, engineers, and revegetation experts developed comprehensive plans and specifications for the restoration of this river reach.

East Fork Bitterroot – meander reactivation

East Fork Bitterroot – following construction

To complete this design with an engineer's certification while at the same time optimizing fish habitat and floodplain function, PBS&J used innovative modeling and design techniques that fully incorporated quantitative geomorphic relationships while allowing designers the freedom to make the most of their intuitive understanding of aquatic habitat and hydraulics. This project was completed under extreme time constraints and was submitted under budget. PBS&J staff supplied revegetation plans, bid-ready plans and specifications and construction oversight.

East Fork Bitterroot – Spring 2007

Rattlesnake Creek Stream Restoration and Flood Control Project
PBS&J (Land & Water) completed a topographic survey, channel design, and flood hazard reduction design for the City of Missoula within the boundary of Greenough Park. Perhaps the most challenging aspect of this project was the public scrutiny and concern of the proposed activities. PBS&J, under contract with the City of Missoula, conducted several public meetings and participated in a public relations media campaign to address public concern about flood issues related to the proposed restoration project.

Rattlesnake Creek – before

Rattlesnake Creek – after

The project involves the breaching of a system of levees within the City of Missoula to reactivate portions of the Rattlesnake Creek floodplain within Greenough Park. Associated with this is a channel relocation and restoration, and extensive native revegetation. Our staff of hydrologists, engineers, and vegetation experts completed the design and bid documents on time and under budget.

The project is complete and has been highly praised by City officials and local residents.

Rattlesnake Creek – Spring 2007

Rattlesnake Creek – two years later

Table 4.2: PBS&J - Additional Projects Similar to Work Described in this RFP

Project Name	Project Description	Client	Client Address and Telephone
Yellowstone River Bank Stabilization, Stewart Property 2006-2007	PBS&J provided design, permitting, and construction oversight services for a bank stabilization project on the Yellowstone River (9th Street Island) within Livingston, Montana. PBS&J retained the services of Troy's Excavation Service (in Bozeman) to construct the project while providing full-time oversight during construction.	Frances Stewart, Lnadowner	15 Ninth Street Island Livingston, MT 59047 (406) 570-1035
Lonepine Stream and Wetland Mitigation Project 2002 – 2005	PBS&J conducted all phases of wetland mitigation design at a proposed 80-acre MDT mitigation site on the Flathead Indian Reservation in Sanders County, Montana. Tasks include agency coordination/credit negotiation, basline wetland delineation and functional assessment, rare plant survey, soil sampling, groundwater monitoring, wetland mitigation and stream restoration design, MDT-compatible plan and specification production, environmental documentation, and permitting.	Tim Conway MDT	MDT Consultant Design P.O. Box 201001 Helena, MT 59620 (406) 444-7292
Milk River Ranch Wetlands Restoration Project 2003 – 2004	PBS&J assisted the landowner with development of this project on approximately 200-300 acres in Phillips County, Montana. Tasks include baseline wetland delineation, agency coordination, and restoration design input.	Mike Kinney Milk River Ranch	P.O. Box 935 Otis Orchards, WA 99027 (425) 418-7396
Alkali Lake (MDT) Stream and Wetland Restoration Project 2003 – 2005	PBS&J prepared a feasibility study for MDT with respect to five stream restoration projects and a 200-acre historic lakebed wetland restoration project (Alkali Lake) on the Blackfeet Indian Reservation in Pondera County, Montana, for mitigation purposes. Tasks included baseline delineation, functional assessment, and extensive agency coordination/potential credit negotiation with the Tribe, Bureau of Indian Affairs, USACE, USFWS, and EPA. PBS&J then embarked on a full design of the Alkali Lake project that includes MDT-compatible plan and specification production.	Bonnie Steg MDT	MDT Environmental Services 2701 Prospect Ave P.O. Box 201001 Helena, MT 59620 (406) 444-9205
Rock Creek Ranch Stream and Wetland Mitigation Project 2002 – 2004	PBS&J conducted all phases of wetland mitigation design at a proposed 120-acre MDT mitigation site in Valley County, Montana. Tasks include extensive agency coordination/credit negotiation, baseline wetland delineation and functional assessment, wetland mitigation and stream restoration design, plan production, construction oversight, planting, and permitting.	Mike Kinney Rock Creek Lands	P.O. Box 935 Otis Orchards, WA 99027 (425) 418-7396
Yellowstone Mountain Club Wetland Restoration Project 2002 – Present	PBS&J has delineated and mapped wetlands on several thousand acres of largely forested mountainous terrain relative to a private ski area and golf course development project in Madison County, Montana. This work involved the use, management, and coordination of a six- to eight-person wetland field crew, as well as a survey team and GIS data coordination and map production. Additionally, PBS&J is preparing wetland and stream restoration/ mitigation plans at some 45 individual locations throughout the area, conducting groundwater monitoring at these and reference locations, providing project oversight with respect to restoration activities as they are implemented, and is conducting monitoring to ensure the efficacy of these restoration efforts.	Steve Brown YMC	Garlington, Lohn, & Robinson 199 W. Pine Missoula, MT 59802 (406) 523-2500
Murphy Ranch Wetland Restoration Project 2003 – Present	PBS&J is assisting with development of a design for an MDT wetland mitigation project in MDT's Butte District. Project tasks include groundwater monitoring, existing wetlands delineation, vegetation communities mapping, stream restoration and wetland restoration and creation features design, and credit negotiation.	Larry Urban MDT	MDT P.O. Box 201001 Helena, MT 59620 (406) 444-6224

4.1.3.2 Subcontractor Experience

A list of proposed subcontractors and their work background and project experience was provided in **Section 3.5.3**. A list of equipment and corresponding rates for each of the heavy equipment subcontractors is provided in **Section 5: Cost Proposal**.

4.1.3.3 Staff Qualifications

Staff qualifications for PBS&J's key personnel that will provide stream restoration services were provided in **Section 4.1.2**. Detailed resumes for these key personnel are also included in **Appendix A**. Professional rates for key personnel are provided in **Section 5: Cost Proposal**.

4.1.3.4 Formal Training

Formal training, including specialized training in fluvial geomorphology, hydrology, and stream restoration, for each key staff member are included in their short biographies (**Section 4.1.2**) and in their individual resumes (**Appendix A**).

4.1.3.5 Staffing

Detailed resumes for PBS&J's proposed key personnel are provided in **Appendix A**. Detailed work and project experience for the heavy equipment subcontractors is provided in **Section 3.5.3**.

4.1.3.6 Facilities

Specific task orders and projects assigned under this contract would be managed out of PBS&J's Missoula, Montana, office. Our Missoula office is staffed by 25 professionals, including our primary administrative and accounting staff for Montana.

Michael Rotar, PE, in our Bozeman, Montana, office is designated as the project manager for tasks and projects that will be assigned under this contract. Mr. Rotar will serve as the primary point of contact for all projects and task orders issued under this contract.

Section 5:
Cost Proposal

Section 5: Cost Proposal

PBS&J understands that the cost proposal will not be formally evaluated as part of the pre-qualification selection process of this RFP. Cost will be a consideration in the tier two process as described in **Sections 3.2 and 3.3**.

PBS&J submits the following professional loaded hourly rates for personnel who may work on this contract in accordance with the format provided in Appendix C of the RFP. Following PBS&J's rate sheet, rates for each of the four heavy equipment subcontractors are provided.

PBS&J Price Sheet

CONTRACTOR NAME: PBS&J		
PERSONNEL	***NAMES****	***RATE ($/HOUR)***
Principal	Jeff Berglund – Wetland Scientist Barry Dutton – Sr. Soils Scientist Paul Callahan – Senior Hydrologist – District Dir. Bruce Anderson – Senior Hydrologist Charlie Vandam – Senior Environmental Scientist Gary Ingman – Sr. Biologist/Watershed Scientist	$160
Project Manager	Michael Rotar, PE – Water Resources Engineer	$125
Senior Scientist	Mark Traxler – Senior Biologist/Wetland Scientist John DeArment – Water Quality and Wetland Scientist Cindy Hoschouer – Wetland/Vegetation Specialist Rich McEldowney – Riparian/Wetland Scientist Ed Spotts – Sr. Environmental Scientist Carlo Arendt – Hydrogeologist Karl Uhlig – Water Rights Specialist	$105
Senior Engineer	Dan March, PE – Hydraulic Engineer Marjorie Wolfe, PE – Water Resources Engineer Jess McGee, PE – Civil Engineer Sarah Ho, PE – Hydraulic Engineer	$115
Project Engineer/Scientist	Greg Howard – Vegetation Specialist Demian Ebert – Fisheries and Wildlife Biologist Jeff Dunn – Watershed Specialist	$90
Staff Scientist/Engineer	Dan Hoffman – Hydrologist/Fluvial Goemorphologist	$80
Senior Environmental Technician	Laura Lundquist – Hydrologic Technician/Watershed Specialist Seth Jarsky – Senior Environmental Technician	$70
Senior Surveyor	Roger Austin, PLS	$95
GIS Specialist	Michelle Arthur – GIS Specialist	$85
Survey crew – GPS (sub centimeter grade)	Depends on location of project	$180
Survey crew – Total station	Depends on location of project	$150
Technical Drafting (AutoCAD)	Judy Rosenbaum	$75
Senior clerical	N/A	$60
Clerical	N/A	$50
Expert Witness (8-hour minimum)	N/A	$170
COMMUNICATIONS		
Copies (in-house, black & white)	N/A	$0.10/page
Copies (in-house, 8.5"x11"-color)	N/A	$1.50/page
Copies (in-house, 11"x17"-color)	N/A	$2.50/page
TRAVEL	***STATE RATE***	
Mileage (all vehicle types)	0.445	(cost/mile)
Lodging	Reasonable Costs/State Rates where avail.	(cost/day)
Meals	State Rates	(cost/day)
Hourly rate during travel	N/A	100% of normal rate

Section 5: Cost Proposal

HEAVY EQUIPMENT SUBCONTRACTORS

SUBCONTRACTOR NAME: Stream Works, Inc.		
EQUIPMENT	***Cost/hour with Operator***	
Excavator with thumb (Komatsu PC120 thru PC200 size)		$125.00
ASV Positrack Multi Terrain loader (minimum 3 cubic yard bucket)		$75.00
Dozer D39E 1		$80.00
Grader		$75.00
Crawler Dump Truck (Tracked Dump Truck)		$85.00
Dump Truck (10-yard)		$75.00
Dump Truck and Trailer		$100.00
Bobcat (small loader) (minimum 1 cubic yard bucket)		$80.00
Tree spade (minimum 42" spade width)		$100.00
PU Truck and Trailer		$75.00
Mobilization		$3.50/mile
LABOR		$45/hour
TRAVEL	***STATE RATE***	
Mileage (standard auto)	$0.445	(cost/mile)
Mileage (heavy duty)	$0.60	(cost/mile)
Lodging	Reasonable Costs/State rates where available	(cost/day)
Meals	State Rates	(cost/day)
Hourly rate during travel	N/A	(% of personnel rate)

SUBCONTRACTOR NAME: R.E. Miller & Sons, Inc.		
EQUIPMENT	***Cost/hour with Operator***	
Excavator with thumb (CAT 312 thru 320 size)		$115.00
Loader (CAT 936F or 938G)		$85.00
Dozer (D4H LGP or D6M)		$90.00
Grader (CAT 140G or 140H)		$80.00
Track Truck (Tracked Dump Truck)		$105.00
Dump Truck (10-12 yard)		$75.00
Dump Truck and Trailer		$80.00
Bobcat (skidsteer) (minimum 1 cubic yard bucket)		$65.00
Tree spade (50" spade width)		$85.00
Service Trucks		$55.00
LABOR		$32/hour
TRAVEL	***STATE RATE***	
Mileage (standard auto)	$0.445	(cost/mile)
Mileage (heavy duty)	$0.60	(cost/mile)
Lodging	Reasonable Costs/State rates where available	(cost/day)
Meals	State Rates	(cost/day)
Hourly rate during travel	N/A	(% of personnel rate)

Section 5: Cost Proposal

SUBCONTRACTOR NAME: Troy's Excavation Service, LLC		
EQUIPMENT	**Cost/hour with Operator**	
Excavator with thumb		$120.00
Loader		$100.00
Dozer		$85.00
Dump Truck (10-12 yard)		$85.00
Transport (Tractor Trailer)		$100.00
Bobcat (mini-excavator) (minimum 1 cubic yard bucket)		$90.00
LABOR		$42/hour
TRAVEL	**STATE RATE**	
Mileage (standard auto)	$0.445	(cost/mile)
Mileage (heavy duty)	$0.60	(cost/mile)
Lodging	Reasonable Costs/State rates where available	(cost/day)
Meals	State Rates	(cost/day)
Hourly rate during travel	N/A	(% of personnel rate)

SUBCONTRACTOR NAME: Rowe Excavation		
EQUIPMENT	**Cost/hour with Operator**	
Excavator with thumb (360 class)		$145.00
Excavator with thumb (200 class – big bucket)		$115.00
Excavator with thumb (200 class – standard bucket)		$110.00
Loader (4 cubic yard)		$90.00
Loader (2 cubic yard/backhoe)		$65.00
Dozer (D6 with 6-way blade)		$90.00
Dozer (D6R LGP with 6-way blade)		$95.00
Dozer (D3 with 6-way blade)		$60.00
Grader (14-foot Moleboard with ripper)		$80.00
Haul trucks (6 x 6, 18 cubic yard capacity)		$115.00
Tracked haul truck		$150.00
Dump truck (12 cubic yard capacity)		$65.00
Transport truck and trailer		$85.00
Crisafulli Pump (16- and 12-inch)		$30/hour or $25/hour for 24 hours
Portable Pump (4-inch)		$15/hour or $12/hour for 24 hours
LABOR		$30/hour (field labor rate) $45/hour (shop labor rate)
TRAVEL	**STATE RATE**	
Mileage (standard auto)	$0.445	(cost/mile)
Mileage (heavy duty)	$0.60	(cost/mile)
Lodging	Reasonable Costs/State rates where available	(cost/day)
Meals	State Rates	(cost/day)
Hourly rate during travel	N/A	(% of personnel rate)

Section 6: Evaluation Process

Section 6: Basis of Evaluation

PBS&J understands and will comply.

PBS&J has thoroughly read and understands the contents of this section including all proposal evaluation and scoring criteria.

Appendix A:
Resumes for Key Staff

Appendix A: Resumes for Key Staff

Michael Rotar, PE, CFM
Project Manager/Senior Water Resources Engineer

Education

M.S., Civil Engineering, University of Colorado, Boulder, Colorado, 1991

B.S., Architectural Engineering, University of Colorado, Boulder, Colorado, 1988

Registrations/Licenses

Professional Engineer: Montana #13285, 1998; Colorado #32182, 1997; Missouri #E-2002009021, 2002; Nebraska #E9171, 1998; Nevada #14180, 1999; South Dakota #7350, 2001; Texas (Inactive) #91365, 2003; Washington #38077, 2001; Wyoming #8931, 2000

Cetified Floodplain Manager

Professional Development

Applied Fluvial Geomorphology (Rosgen), 1992

Reservoir Shoreline Erosion Control and Revegetation, U.S. Army Corps of Engineers–Waterways Experiment Station, 1995

Western Water Rights & Water Engineering, University of Colorado-Denver, 1995

Geology and Geomorphology of Stream Channels, University of Washington-Seattle, 2003

Awards and Honors

South Dakota Department of Transportation Quality Award for Grading Design

2004 Environmental Stewardship Award, National Association of Enviro. Professionals

Software

MS Office applications; FlowMaster, HEC-RAS, HEC-2 hydraulic models; HEC-HMS, HydroCad hydrologic models; HY-8 culvert model; Fish X-ing fish passage model.

Mr. Rotar is a hydraulic/civil engineer in PBS&J's Bozeman, Montana, office. He has 16 years of professional experience in the areas of river and riparian restoration design, hydrologic and hydraulic analyses, sediment transport analysis, bioengineered streambank stabilization, urban stormwater management, wetland mitigation design, and construction management. Mr. Rotar has applied this expertise to a broad spectrum of water resource projects including channel relocation, aquatic and riparian habitat restoration, flood control and mitigation, and wetland design for water quality improvement. He has led large-scale channel design efforts in a variety of environments, ranging from highly confined urban areas to severely disturbed, mined drainages. He has provided oversight and construction management for many of the projects he designed, affording him extensive experience with project implementation.

Representative Project Experience

- Representative, Gallatin Conservation District (contracted), Bozeman, Montana: reviewed 310 permit applications including potential impacts to aquatic environment, fish passage, etc. (ongoing)
- Project engineer, Dead Run Stream Restoration, Fairfax County (McLean), Virginia (ongoing)
- Project engineer, Yellowstone Mountain Club, Big Sky, Montana; Channel and Wetland Restoration (2005-present)
- Project manager, Beaver Creek Fisheries Management Plan, Chippewa-Cree Tribe of the Rocky Boy's Reservation, Box Elder, Montana (2005-2006)
- Project engineer, Big Spring Creek Renaturalization, Lewistown, Montana; Montana Fish, Wildlife, and Parks (1998-2001)
- Project manager, Silver Bow Creek Remediation, Montana, Butte, Montana; Department of Environmental Quality (1997-2000)
- Project manager, Yellowstone Cutthroat Entrainment Prevention Project, Park County, Montana; Montana Fish, Wildlife, and Parks (2006)
- Project manager, Garden Creek Restoration Project (Yellowstone Cutthroat fish passage and spawning habitat), Conant Valley, Idaho; Trout Unlimited (2004)
- Project manager, South Fork Judith River Fish Barrier; Montana Fish, Wildlife, and Parks and Lewis & Clark National Forest (2002-2004)
- Project manager, Upper Tannehill Creek Channel and Streambank Stabilization, Austin, Texas; City of Austin Water Utility (2003-2004)
- Project engineer, Washington Integrated Streambank Protection Guidelines, Olympia, Washington (1999-2001)
- Project manager, Restoration of South Table Creek at Arbor Day Farm, Nebraska City, Nebraska; The National Arbor Day Foundation (1998-2000)

Michael Rotar, PE, CFM, resume continued...

- Project manager, Cherry Creek Bridge Replacement – Hydraulic Analysis, Valley County (Glasgow), Montana (2006)
- Project manager, U.S. Highway 385 Stream Relocations, SD P-BRF 0385(14)115, Lawrence County, South Dakota; South Dakota Department of Transportation, Rapid City Region (2000-2002)
- Project manager, East Fork Carson River Channel Rehabilitation, U.S. Fish and Wildlife Service (USFWS)– Lahontan National Fish Hatchery, Gardnerville, Nevada (1999)
- Project engineer, Jessup Mill Pond/Dam Modifications, Creston, Montana; USFWS (2000-2001)
- Project engineer, Orchard Homes Diversion Reconstruction Project (a.k.a. Brennan's Wave), Missoula Montana; Missoula Whitewater Association (2005-2006)
- Project manager, Flood Hazard Analysis – Beaverhead River Bridge Crossing; R.E. Miller & Sons (Tom Miller) (2006)
- Project manager, Butler Creek and LaValle Creek Hydrologic and Hydraulic Analyses, Missoula County, Montana; Missoula County Attorney's Office (2003)
- Project engineer, O'Keefe Creek Flood Hazard Analysis (Shield's Property); Jon Shields (2005)
- Project engineer, Kootenai Creek Village Floodplain Analysis, Ravalli County, Montana; FBN Inc. (2005)

Publications

- Callahan, P., Rotar, M., DuCuennois, M. *Mountain Paradise Maintained*. In: Stormwater – The Journal for Surface Water Quality Professionals, May/June 2006.
- Chavez, J., C. Beul, and M.A. Rotar. *A Work in Progress: Streamside Tailings Remedial Action*. In: Proceedings of the 8th Annual Mine Design, Operations and Closure Conference, Polson, Montana. 2000.
- Rotar, M.A., and K.F. Boyd. *Restoration of an Incised Channel in Southeastern Nebraska*. In: Proceedings of the 31st International Erosion Control Association Conference, Palm Springs, California. 2000.
- Boyd, K.F., M.W. Doyle, and M.A. Rotar. *Estimation of Dominant Discharge in an Unstable Channel Environment*. American Society of Civil Engineers Annual Conference, Seattle, Washington. 1999.
- Rotar, M.A., and J.T. Windell. *Innovative Bioengineering Techniques Used to Restore Boulder Creek, Colorado*. In: Proceedings of the 27th International Erosion Control Association Conference, Seattle, Washington. 1996.

Appendix A: Resumes for Key Staff

Paul Callahan
Senior Division Manager

Education

M.S., Forestry (Forest Hydrology Emphasis), University of Montana, 1996

B.S., Chemistry, Gettysburg College, 1986

Software

MS Office applications; FlowMaster, HEC-RAS hydraulic models; sediment transport modeling.

As a principal/senior hydrologist/watershed planner at PBS&J, Mr. Callahan's primary responsibilities are related to stream restoration, fish habitat enhancement, and watershed modeling and analysis. He has extensive experience in all phases of project management including developing proposal and budget documents, completing project design, coordinating with subcontractors, and providing on-the-ground project oversight. Mr. Callahan is a specialist in large- and small-scale watershed analysis related to the National Environmental Policy Act (NEPA) process and total maximum daily loads. He has a thorough knowledge of modeling and design requirements for Clean Water Act Section 404 permits and other similar state and county permits.

In addition to management responsibilities for PBS&J's environmental science division, Mr. Callahan maintains project management involvement. His primary technical responsibilities are related to NEPA project management, stream and river restoration and stabilization, and watershed planning and analysis. He is widely regarded as a leader in the effort to integrate engineering into natural resource analysis and design. This integration has made PBS&J effective in the efficient management of complex and controversial projects. Mr. Callahan's prior experience working for state and federal agencies has enabled him to become a effective communicator and advocate for balanced project proposals. His design expertise includes hydraulic modeling using HEC-RAS, numerous sediment transport models, and fluvial geomorphic relationships to establish stable stream and river channels with improved fish habitat. He has completed wetland and stream mitigation projects from conception to construction and he is considered one of Montana's more knowledgeable consultants for Clean Water Act issues.

Representative Project Experience

Kleinschmidt Creek Stream and Wetland Restoration, Ovando, Montana; Montana Department of Transportation (MDT). Project manager and lead designer for this design-build wetland mitigation project. This project involved planning and negotiations for wetland credit as well as design, permitting, and construction management. Negotiations took place with the U.S. Army Corps of Engineers, private landowners, and MDT. The project has resulted in more than 2 miles of restored spring creek and more than 11 acres of wetland credit.

Greenough Park Floodplain and Stream Restoration, Missoula, Montana; Missoula Parks and Recreation. Project manager and lead designer for this urban stream restoration project. The project involved extensive community and stakeholder involvement as well as grant-writing, permitting, and detailed hydraulic modeling to evaluate floodplain impacts. It has been widely praised by the client, neighboring landowners, and community leaders.

Paul Callahan resume continued...

Jocko River Bridge Geomorphic and Hydraulic Analysis, Arlee, Montana; MDT. Principal in charge for the environmental and hydraulic analysis portion of bridge design on the Highway 93 bridge over the Jocko River. Participated with prime consultant in discussions with MDT and the Salish and Kootenai tribes related to bridge sizing and impacts. Participated in floodplain restoration discussions with tribe and landowners.

Milltown Reservoir Remediation, Milltown, Montana; Envirocon and Atlantic Richfield. Project manager for technical services provided to Envirocon and Atlantic Richfield on engineering design of the Milltown Dam removal project. As a superfund site, this dam is slated for removal as are 2 million cubic yards of fine sediment that has aggraded behind it. Tasks included HEC-6 sediment transport and scour modeling of various removal scenarios, topographic and bathymetric survey, groundwater monitoring and reporting, and agency negotiations.

Harvey Creek Stream Restoration, Western Montana; Montana Fish, Wildlife, and Parks. Project manager and lead designer for 1,500 feet of complete design-build channel restoration on Harvey Creek, tributary to Clark Fork River. The project involved natural channel design to provide short-term stability with long-term natural function. Landowner negotiations related to maintenance of a functional irrigation diversion required detailed hydraulic modeling and careful construction oversight. Both client and landowner have praised the project.

Camp Creek Stream Restoration, Sula, Montana; MDT. Project manager/lead design hydrologist providing design support for the development of plans and specifications for this two-mile channel reconstruction project in a rural mountainous watershed. Project involved more than 5 years of planning, landowner negotiations, and design. Project associated with the Sula North-South Highway Reconstruction (a $12 million federal aid project). Completed the design on schedule and on budget. Responsible for all phases of this project design including survey; certified engineered design; revegetation; bid-read construction plans; natural revegetation design; sediment transport; fisheries enhancement; hydraulic analysis; water rights permitting; support to MDT staff for 404, 124, and floodplain permits; stormwater permitting; support to MDT staff for construction easement; and project implementation oversight. Used HEC-RAS, HY8, and sediment transport models.

East Fork Bitterroot River Meander Reactivation, Sula, Montana; MDT. Project manager for the design of the largest channel reactivation project that used natural channel design principles. Project involved all hydraulic design, fisheries enhancement (to satisfy USFWS on Endangered Species Act Section 7), sediment transport analysis, and revegetation specification. The design included 1,200 feet of the E. Fork Bitterroot River which has a bankfull flow of more than 3,500 cubic feet per second (cfs) at the project location.

Harvey Creek Stream Restoration, Missoula, Montana; Montana Fish, Wildlife, and Parks. Project manager, lead hydraulic designer, and construction oversight for a channel reconstruction, fish habitat enhancement, and floodplain wetland restoration on 1,000 feet of stream channel (250 cfs - bankfull) previously channelized stream adjacent to I-90.

Rattlesnake Creek Channel Restoration and Flood Damage Control Project, Montana. As project manager/lead hydrologist, completed a topographic survey, channel design, and flood hazard reduction design for the City of Missoula within the boundary of Greenough Park. Perhaps the most challenging aspect of this project was the public scrutiny and concern of the proposed activities. Project involved the breaching of a system of levees within the City of Missoula to reactivate portions of the Rattlesnake Creek floodplain within Greenough Park.

Daniel March, PE, CFM
Senior Hydraulic Engineer

Education

M.S., Civil Engineering (Hydraulics), Colorado State University, 1993
B.S., Civil Engineering, Montana State University, 1987

Registrations/Licenses

Professional Engineer: Montana #9687 (1993)
Certified Floodplain Manager

Software

MS Office applications; FlowMaster, HEC-RAS, HEC-2 hydraulic models; HEC-HMS, XP-SWMM hydrologic models; HY-8 culvert model; SAM sediment transport model

Mr. March, a senior hydraulic/civil engineer in PBS&J's Bozeman, Montana, office, has 19 years of administrative and consulting experience, demonstrating the ability to identify and implement both unique and standard design solutions to engineering problems. Mr. March has extensive experience with hydrological and hydraulic analysis/design, environmental site assessments, and remediation. His computer software capabilities for modeling/design include AutoCAD, Softdesk, TR-55, TR-20, HEC-RAS, SAM, and PLUME.

Mr. March's design and construction experience includes hydrological and hydraulic analysis, stream channel design, stream channel restoration/reconstruction, stream bank stabilization, erosion/flood/sediments control measures, floodplain analysis, wetland design, water balance, sediment ponds, stormwater conveyance systems, landfill design and monitoring, hazardous waste investigations, fuel spill investigation and remediation, water supply system design, wastewater treatment, septic system design, gravel mining permitting, CECRA, CERCLA, RECRA, RI/FS, and work plan and report preparation.

Representative Project Experience

Stream Design/Analysis: Camp Creek (3 miles), Trout Creek (3 miles), West Fork Bitterroot (1 mile), Little Blackfoot River (2 miles), Upper Little Blackfoot River (3 miles), Mill Creek, Swan River, Lower Willow Creek, Carter Gulch, Spokane Creek, Spring Creek, Jocko River Bridge, Silver Bridge/Bitterroot, Lolo Creek, Clark Fork/Yellowstone Pipeline, and Alder Gulch Placer Mine Restoration.

Shoreline/Bank Stabilization: Richmond (Bitterroot River), Gingerelli (Clark Fork), Walsh/Onken (Clark Fork), Whitefish City Beach (Whitefish Lake), Asarco Tacoma (Puget Sound), and Hastings (Swan River).

Fish Screens/Barriers: Chamberlain Creek, Cottonwood Creek, North Fork Fridley Creek, Lawn Lake.

Floodplain: Project manager for Cascade, Flathead, Lewis & Clark, Missoula, and Yellowstone Counties' Map Modernization Project (Federal Emergency Management Agency) and West Billings Flood Hazard Study. Project engineer for Glacier National Park, Saunders (LaValle Creek), J.R. Daily (Clark Fork), Mytty (Bitterroot), Rocky Dubois, and Stillwater River Floodplain Delineation.

Wetlands/Ponds: Alkali Lake Wetland (200 acres), Rock Creek Wetland (80 acres), Lone Pine wetland (20 acres), Murphy Wetland (20 acres), Hahn Wetland, (20 acres), Camp Creek, Morgenstern, Zoot, Coleman, Pomeroy, Watson, and 888 Ranch.

Daniel March, PE, CFM, resume continued...

Hydrology/Water Balance: Rock Creek Mine, Zortman/Landusky, Mike Horse Mine, Black Pine Mine, Asarco E. Helena, Upper Blackfoot Mining District, Dragging Y Ranch, Opportunity Ponds, Basin Creek Mine, Colstrip, Westmoreland, Montana Power Company Federal Energy Regulatory Commission (MPC FERC) Re-licensing, Greg Field Water Rights, Van Deren Water Rights, Schatz Ranch, Kendall Mine, and Seubert Mining.

Permitting: Rock Creek Mine Water Balance, Basin Creek Mine, MPC FERC Re-licensing, Rock Creek Mine Montana Pollutant Discharge Elimination System (MPDES) Permit, Seubert Mining, Asarco E. Helena MPDES Permit, and American Chemet Corporation.

Mine Reclamation: Corbin Flats, Madison County Historical Hard Rock Mines, Harrison Adit, Sand Coulee Coal Mines, Ames/Peterson Coal Mines, and Black Pine Mine.

Pipeline/Water Supply/Waste Water Treatment: Alkali Lake Wetland Mitigation, City of Poplar Expansion, Saddle Mountain Estates, Colstrip Groundwater Remediation, Colstrip Elks Club, Asarco E. Helena Waste Water Treatment Plant Design, and Stimson Waste Water Treatment Analysis.

Dams: Westmoreland (9 earthen dams), Little Sleeping Child, Rogers Coulee, and Northern Pacific Dam.

Publications

- March, D.E., Abt, S.T., and Thorne, C.R. *Bank Stability Analyses versus Field Observations*. Hydraulic Engineering. Proceedings of the 1993 conference sponsored by the Hydraulic Division of the American Society of Civil Engineers (ASCE). 1993.
- March, D.E. *Streambank stability analysis in the Yazoo Basin, Mississippi, Using Limiting Stability Analysis*. Civil Engineering, Colorado State University. 1993.
- Watson, C.C., Abt, S.T., Thorne, C.R., Gessler, and March, D.E. *Monitoring and Analysis of Incised Streams-1992 Progress Report to U.S. Army Corps of Engineers, WES*. Contract no. DACW 39-92-K-003. 1993.
- March, D.E. and Allen, B.S. *An evaluation of an Urban Storm Drainage Area Using PC-SWMM3*. Civil Engineering, Montana State University. 1987.

Presentations

- *Flood Hydrology - Determination of the 100-Year Discharge*. Montana Floodplain Coordinator Conference, Lewistown, Montana. April 2003.
- *Approaches to Estimation of the 100-Year Discharge*. Montana Floodplain Coordinator Conference, Lewistown, Montana. April 2003
- *Complications of Floodplain Delineation - A Case Study*. Montana Floodplain Coordinator Conference, Billings, Montana. April 2001.
- *New Wastewater (Sanitary Sewer) Treatment Process at ASARCO, East Helena, Montana*. Missouri Water Environment Association/Montana Section of the American Water Works Association Joint Conference. April 1999.
- *Bank Stability Analyses versus. Field Observations*. National Hydraulic Engineering Conference, San Francisco, California, sponsored by the Hydraulic Division of ASCE. July 1993.

Appendix A: Resumes for Key Staff

Daniel Hoffman
Geomorphologist/Hydrologist

Education

M.S., Geology, University of Montana, 2005

B.S., Resource Conservation, University of Montana, 1999

Software

MS Office applications; MATLAB; HEC-RAS hydraulic modeling.

Professional Development

Endangered Species Act species handling and transportation training

Electrofishing safety training

Attended "Applied Rived Morphology" Level 1 course with David Rosgen

Trimble robotic total station survey training

Awards and Honors

2005 Best Student Poster Award-Montana Chapter of the American Water; Resources Association Annual Conference

2004 American Water Works Association Donald G. Willems Scholarship

Mr. Hoffman is a geomorphologist/hydrologist with PBS&J's water resources division. His range of experience includes fluid mechanics, ground and surface water hydrology, fluvial and hillslope geomorphology, channel design, and stream restoration. With a strong background in fluvial processes, he specializes in numerical and analytical approaches to sediment transport modeling, computational fluid dynamics, and open channel hydraulics.

Representative Project Experience

Sediment Supply Controls on Form Drag, National Center for Earth Surface Dynamics Saint Anthony Falls Laboratory, Minneapolis, Minnesota. Lead scientist (fluvial geomorphologist) investigating the role of sediment supply in modulating bed topography, relationships between bed forms and form drag, and changes in sediment transport capacity as a function of changes in sediment supply. Experiments were conducted in a laboratory flume equipped with the following instrumentation: laser bed profiler, MASA water surface sonar, acoustic doppler velocimeter, sediment feeder, and digital video. Managed an ambitious project on a very tight timeline with limited lab resources and personnel. Supervised three employees.

Research Associate, University of Montana, Missoula, Montana. Developed and implemented a field-based research project investigating stream channel response to large influxes of sediment. Quantitatively assessed the effects of 9 large post-fire debris flow deposits on fluvial sediment transport processes and channel hydraulics. Collected, analyzed, and interpreted data from channel surveys, bed material sampling, and gauging stations. Presented results publicly to scientific and lay audiences. Supervised two employees.

Fisheries Project Manager, Montana Fish, Wildlife, and Parks, Missoula, Montana. Developed a landowner-based stream restoration program, prioritizing restoration efforts to fund and implement 6 stream restoration projects. Collected and analyzed fisheries, sediment, and geomorphic data to prepare grants, designed stream restoration projects, developed public support, acquired permits and monitored project success. Prepared grant applications for restoration funding. Developed relationships with multiple-generation landowners on Endangered Species Act (ESA) species restoration projects to develop grazing and irrigation strategies, and identified landowner requirements for ranch management to support restoration projects on private land. Prepared environmental assessments for ESA species restoration projects and took them through the public review process. Supervised three employees.

Daniel Hoffman resume continued...

Fisheries Technician, Montana Fish, Wildlife, and Parks, Missoula, Montana. Surveyed channel morphology, riparian vegetation, fish habitat, and bank stability on more than 125 kilometers of stream channel. Sampled fish populations with electrofishing equipment and produced fish population estimates. Conducted Bull trout redd counts on tributaries of Rock Creek and the Clark Fork River. Assisted with a University of Montana study of the intermediate host of the whirling disease parasite Tubifex tubifex. Located radio-tagged Bull Trout using telemetry equipment during their seasonal migrations as part of the Rock Creek Bull Trout Telemetry Study. Hired and supervised planting crews of 12 people on stream revegetation projects. Chosen over other technicians to work through the winter season and was offered increasing amounts of responsibility culminating with an advancement to a project manager position. Supervised 2 fisheries technicians.

Publications

- Hoffman, D.F, and Gabet, E.J. *Effects of Sediment Pulses on Channel Morphology in a Gravel-Bed River*. In: Geological Society of America Bulletin.

Appendix A: Resumes for Key Staff

Rich McEldowney, PWS
Environmental Scientist

Education

M.S., Rangeland Ecosystem Science, Colorado State University, 1999

B.S., Wildlife Biology, University of Montana, 1993

Certifications

Professional Wetland Scientist: #1439, 2004

Certified to conduct presence/absence surveys for Ute ladies'- tresses orchid (Spiranthes diluvialis), 2002

Software

MS Office applications

Professional Development

HAZWOPER 24-hour training, 2005

Basic First Aid, 2005

River Assessment and Monitoring, 2004

River Morphology and Applications, 2003

Applied Fluvial Geomorphology, 2003

Proper Functioning Condition, 2002

Grass Identification for Restoration, 2002

Streambank Stabilization and Reservoir Water Quality, 2001

Hydric Soils for Wetland Delineations, 2000

Stream Design/Restoration Training, 2000

Riparian Restoration Workshop, 1998

Buffer Zone Development Workshop, 1995

Protected Area Management Training, 1994

Mr. McEldowney, a senior environmental scientist and riparian/wetland ecologist, has more than 11 years of experience in numerous wetland delineations, wetland functional assessments, stream and wetland mitigation designs and plans, conservation and wetland banking, wetland findings, National Environmental Policy Act (NEPA) documentation, riparian mapping and management, stream ecosystems, water-quality monitoring and reporting, vegetation mapping, plant and animal surveys including threatened and endangered species, aerial photo interpretation, and noxious weed management throughout Montana, Wyoming, Idaho, Utah, Colorado, and South Dakota. His background also includes a 2.5-year mission to the Philippines with the U.S. Peace Corps, where he aided the Philippine Department of Natural Resources with understanding, managing, and sustaining one of the nation's protected seascapes that included mangrove, seagrass, and coral-reef ecosystems. Mr. McEldowney is a certified professional wetland scientist and has completed levels 1 through 4 of the Rosgen short courses on fluvial geomorphology and river assessment and monitoring. He is certified by the U.S. Fish and Wildlife Service as R-6 to conduct presence/absence surveys for Ute ladies'-tresses orchid.

Representative Project Experience

Caliente Rail Corridor Hydrological Analyses, Clark County, Nevada. Environmental scientist responsible for conducting field surveys to identify Waters of the U.S., identifying and delineating wetlands under the jurisdiction of the U.S. Army Corps of Engineers, and compiling data for geographic information systems mapping and the jurisdictional determination report. Mapped wetlands and other Waters of the U.S. and made preliminary jurisdictional determinations in the Caliente, Nevada, portion of the transportation corridor in support of the draft environmental impact statement (EIS). Assisted in the compilation of the technical report for the entire 320-mile corridor.

Mission Interchange Improvements – North, Park County, Montana. Environmental scientist responsible for the biological resources report to Montana Department of Transportation (MDT) for this 7-mile roadway improvement project. The report includes analyses of impacts to wetlands, wildlife, aquatic resources, and special status plants and animals.

Environmental Protection Agency (EPA) – Section 404 Wetland Enforcement/ Wetland Mitigation, Various Locations. Provided technical expertise to EPA Regions 1, 5, and 8 for seven 404 enforcement cases that included onsite investigations and evidence gathering (e.g., aerial photo interpretation) of alleged 404 violations, technical adequacy review of mitigation plans, wetland restoration and mitigation design, and evaluation of riverbank restoration potential.

Rich McEldowney, PWS, resume continued...

Amon Ranch Stream and Wetland Mitigation Bank, Missoula County, Montana. Project manager and wetland/stream ecologist for this mitigation project for MDT. Responsibilities include documenting baseline conditions in a biological resources report, developing the conceptual mitigation design report, and coordinating with MDT and federal agencies. Wetland delineations, groundwater monitoring, and aerial photogrammetry are components of this project.

MDT Wagner Marsh Wetland Monitoring, Montana. Responsible for conducting annual monitoring of the Wagner Marsh mitigation site. This includes documentation of wetland area, types, and functionality, as well as plant and animal species using the site. Results reported annually in a monitoring report.

Bureau of Land Management (BLM) Preliminary Draft EIS, Wyoming. Resource specialist for EIS sections on livestock grazing and riparian and wetland areas for two resource management plan EISs—one for the Casper Field Office and a second for the Kemmerer Field Office. The project required a high level of interaction and communication with BLM resource personnel.

Colorado Department of Transportation I-70/Clear Creek Wetland Mitigation Bank, Colorado. Wetland ecologist/project manager for site evaluation, wetland delineation, and shallow groundwater well installation and monitoring of this future wetland bank being prepared for anticipated impacts to wetlands and other Waters of the U.S. caused by improvements of the I-70 transportation corridor. Data and information from this project will be used in the eventual restoration of the site.

Swan River Reservoir Site Review, Colorado. Performed a critical review of the potential impacts to wetlands and other Waters of the U.S. at two potential reservoir sites in Summit County, Colorado. As part of the review, developed three conceptual strategies for onsite wetland/stream mitigation if the reservoirs were constructed.

Cucumber Gulch Resource Protection Plan and Monitoring, Town of Breckenridge, Colorado. Located in Breckenridge, Colorado, Cucumber Gulch is subject to increasing pressures from development. This project includes independent assessment of available scientific information on natural resources including wetlands, threatened and endangered species, wildlife, and water quality. Conducted qualitative assessments of the functional attributes of slope and riverine wetlands within the project area. Conducted annual vegetation monitoring and quarterly water quality monitoring of surface waters and shallow groundwater. Documented monitoring results in annual monitoring reports to the Town of Breckenridge. Additionally, 1:7,000 color aerial photography was used to map wildlife habitat types within the Gulch.

Federal Highway Administration-Central Federal Lands Highway Division Forest Highway 29, Wyoming. Wetland ecologist for this bridge re-alignment project in central Wyoming. Performed the wetland delineation, wetland functional assessment, presence/absence surveys for Ute ladies'-tresses orchid (Spiranthes diluvialis), and global positioning system mapping of the site. Results were documented in a technical report.

Publications

- McEldowney, R.R., M. Flenniken, G.W. Frasier, M.J. Trlica and W.C. Leininger. *Sediment Movement and Filtration in a Riparian Meadow Following Cattle Use*. J. Range. Mgmt. 55(4) 367-373. 2002.
- McEldowney, R., M. Bakeman, R. Wostl, K. Linder, and D. Angulski. *Riparian Habitat Restoration for the Preble's Meadow Jumping Mouse (Zapus hudsonius preblei) in Castle Rock, Colorado*. In: Impacts of Growth and Development on Riparian Areas, Colorado Riparian Association 13th Annual Conference. Glenwood Springs, Colorado, October 3-5, 2001, pp. 53-60.
- Flenniken, M., R. R. McEldowney, W. C. Leininger, G. W. Frasier, and M. J. Trlica. *Hydrologic Responses of a Montane Riparian Ecosystem Following Cattle Use*. J. Range. Mgmt. 54(5) 567-574.

Appendix A: Resumes for Key Staff

Cindy Hoschouer
Senior Scientist

Education
B.S., Land Resources/Horticulture, Montana State University, 1979

Software
MS Office applications

Professional Development
Federal Wetland Policy, U.S. Army Corps of Engineers, 1997
High Altitude Revegetation Workshop, Colorado State University, 1996
Wetland Delineation Training Certification, U.S. Army Corps of Engineers, 1995
Society of Wetland Scientists Symposium, Portland, Oregon, 1994
Constructed Wetlands for Treating Acid Mine Drainage, Tennessee Valley Authority, 1993
Mined Land Reclamation Symposium, 1993
Wetland Identification, Ecology, and Regulation, University of Wyoming, 1992
Acid Rock Drainage, U.S. Forest Service, 1992
Radiation Safety, 1991
American Society for Surface Mining and Reclamation Symposium, Calgary, Alberta, 1989
Health and Safety Training for Superfund Workers, Occupational Safety and Health Administration, 1989
Vadose Zone Monitoring, 1988

Ms. Hoschouer is a wetland and revegetation specialist with more than 18 years of experience in the design, management, and implementation of field projects requiring innovative revegetation design including revegetation of contaminated soil, wetland mitigation, riparian restoration, and land reclamation. She has been involved in performing ecological resource inventories, threatened and endangered species surveys, rangeland/forest community surveys and assessments, vegetation-reference site-recovery monitoring, and delineation of jurisdictional wetlands; and providing oversight and implementation of native plant and land restoration projects that involved plant installation (maximizing horticultural techniques for upland, wetland, sub-irrigated, and streambank hydrologic zones), streambank stabilization, and erosion control techniques. Her background also includes environmental assessments and document preparation, mitigation and weed-control planning, reclamation design, pond design, permit applications, and agency negotiations.

Representative Project Experience

Wetland Restoration/Mitigation, Big Sky, Montana; Yellowstone Mountain Club. Assisted with wetland delineations, wetland monitoring, wetland restoration planting supervision for the past 3 years at Yellowstone Club. Conducted seed collection for wetland forbs and grasses that were not commercially available for propagation at the restoration/mitigation sites.

Fox Creek Restoration Project, Driggs, Idaho; Gillilan Associates Inc. Developed a comprehensive plan for the bank stabilization, revegetation and instream habitat establishment in the upper reach of Fox Creek. This plan was reviewed by the Friends of the Teton River, Idaho Fish and Game, Natural Resources Conservation Service, U.S. Army Corps of Engineers (USACE), and HDR Engineering. Collaborated with Chris Hoag (Aberdeen Plant Materials Center) on innovation vegetation plans using a combination of various types of willow cutting treatments, live willow clumps, pre-vegetated coir mat trials, and containerized species. Other tasks included species identification, willow cuttings collection, storage and installation supervision, and monitoring plan development.

King Creek Reclamation Project, Hays, Montana; Environmental Protection Agency (EPA) and USACE Montana. Developed a comprehensive revegetation design plan for areas along King Creek impacted due to historic tailings deposits. The design plan included native seed mixes and woody plant species selection for upland, wetland and streambank zones, implementation guidelines, erosion control, and site specific drawings. Other tasks included responding to agencies and tribes (Fort Belknap tribal ground), reviewing earthwork plants, preparing cost estimates, floodplain design for habitat enhancement, and on-site supervision of seeding and planting.

Cindy Hoschouer resume continued...

Revegetation Design for Subarea One- Streamside Tailings Operable Unit, Butte, Montana; ARCO Environmental Remediation, LLC. Assisted with the remedial design for 5 miles of impacted stream corridor and fluvially deposited mine tailings. Developed the revegetation design identifying revegetation zones and combined data characterizing climatic patterns, groundwater availability, and topographic features with soil substrate properties to form the basis for the selection of species and plant materials best suited to the area.

Clark Fork Streambank Stabilization Project, Deer Lodge, Montana; R2 Resources. A meander bend of the Clark Fork River, just upstream of the confluence with Dempsey Creek, was reconstructed in 1999/2000 using natural materials. Assisted R2 Resources in the revegetation design for the 620 feet of reconstructed streambank. This work included selecting species for transplanting to attain bank stabilization, using willow cuttings and smaller containerized willows, designing seed mixes based on land use, and hydrology. The revegetation work included construction and revegetation supervision and 3 years of monitoring.

Silver Bow Creek Superfund Site, Streambank Tailings and Revegetation Study, Butte, Montana; EPA and Montana Department of Health and Environmental Sciences. Conducted vegetation sampling and monitoring on the Streambank Tailings and Revegetation Study along the Silver Bow Creek site for the entire length of the project. Vegetation monitoring included collecting plant performance data and plant samples for metal analyses to provide the feasibility study team with sufficient information to design effective and appropriate revegetation programs for streamside tailings. Data measurements included plant density, seedling survival, canopy cover, production, reproductive effectiveness, and rooting depth.

Red Canyon Ranch Revegetation and Restoration Project, Sheridan, Montana; Fay Recreation Ranch Management. Retained by a Bozeman-based firm and a Montana broker of high-quality fishing and hunting properties to provide a revegetation design for the restoration and riparian habitat improvement within the Ruby River floodplain and along the Silver Spring Creek. The restoration plan included a revegetation design for two large ponds, a riparian corridor for visual enhancement, and improved aquatic and wildlife habitat. The project included the use of several thousand woody species; primarily native trees and shrubs, ranging from tree spaded material to containerized plants. Implemented a weed control plan for upland and riparian habitat, provided assisted in a grazing management plan and provided weekly site visits to monitor plant health and to provide assistance in general horticultural techniques to ensure plant success.

Soils and Vegetation Investigation of Historically Irrigated Lands in the Clark Fork River Operable Unit, Montana; ARCO Remediation, LLC. Conducted extensive soil and vegetation investigations on historically irrigated lands including aerial photo-interpretation, landowner interview, soil sampling/analysis, and vegetation assessment. The study provided comparisons of field irrigated with metal-impacted water from the CFR may be potential sources of metals to environmental media. The report compared vegetation production/cover data for fields historically irrigated with CFR water to analogous sites that were irrigated with other water sources.

Greg Howard
Wetland/Vegetation Specialist

Education
B.A., Biology, University of Montana, 1995

Certifications
Basic Wetland Delineation, Wetland Training Institute, 2002
Hazardous Waste Operations and Emergency Response (HAZWOPER), 2002

Software
MS Office applications

Professional Development
Master Invasive Plant Management Course, Missoula County Weed District, 2002

Mr. Howard, an environmental scientist/botanist, has 11 years of experience in performing vegetation analyses and mapping, botanical identification, revegetation prescriptions, wetland delineation, mitigation design, and permitting. He also assists with implementation of wetland restoration, native plant, and land restoration projects, which includes oversight of construction activities, plant installation and streambank stabilization. Mr. Howard also has advanced computer skills, specializing in SQL database design and web page programming.

Representative Project Experience

Wetland Restoration/Mitigation, Big Sky, Montana; Yellowstone Mountain Club. Contributed to 4 years of wetland classification, mapping, and restoration planning at the Yellowstone Club for several distinct location within the client's ownership. Tasks included vegetation analysis, revegetation prescription, wetland delineation and restoration/mitigation reports, wetland construction oversight for approximately 6 acres of wetland restoration/mitigation. As part of the restoration/mitigation plan, vegetation prescriptions were based on propagation of site specific plants. Coordinated a seed collection program focusing on several unique wetland forb and grass-like plants that were not available in seed from commercial stock. Identified seed collection areas, coordinated crews, and collected, processed, and delivered seeds to nursery for propagation.

Natural Resources Damage Program, Wetlands Legacy Contract, Silverbow Plantings and Seed Collection, Upper Clark Fork Drainage, Montana; State of Montana, Department of Justice. Seed collection of native shrub and tree species located within the Upper Clark Fork drainage for Silverbow Creek restoration projects. Tasks included willow and tree species identification, geographic information systems mapping of collection locations, collection crew coordination with subcontractor, and seed collection and cleaning.

Wetland Monitoring, various locations, Montana; Montana Department of Transportation. Monitored four individual wetland mitigation sites for wetland development. Tasks included wetland delineation, mapping, vegetation and wildlife analysis, and annual report processing.

Tribal Wetland Projects, Tribal Properties, Montana; Confederated Salish and Kootenai Tribe. Wetland mapping, classification, Section 404 permitting, and mitigation services for several different projects including Timberlane Road bike/walk path, Lower and Upper Dry Forks Reservoir mitigation and Hamel Property delineation.

Sun Valley Vegetation Management Plan and Wetland Delineation, Ketchum, Idaho; Sun Valley Resort.Tasks included comprehensive vegetation mapping, identification, and wetland mapping.

Big Mountain Wetland Delineation, Whitefish, Montana; Winter Sports, Inc. Wetland mapping, classification, and mitigation plan design. Tasks included construction of wetland mitigation sites including construction oversight and revegetation.

Greg Howard resume continued...

Teller Wildlife Refugee Wetland Enhancement Permitting, Corvallis, Montana. Tasks included wetland delineation, Nationwide 27 permitting, and enhancement design.

Rocky Mountain Elk Foundation Riparian Inventory and Mitigation Design, Missoula, Montana, Rocky Mountain Elk Foundation. Tasks included riparian inventory, mitigation plan design, and revegetation mitigation oversight.

Rock Creek Ranch Pond Mitigation, Phillipsburg, Montana; Tony Marletto. Task included wetland delineation, mitigation design, pond and wetland construction oversight, and annual monitoring for the U.S. Army Corps of Engineers.

Knight Wetland Mitigation, Hamilton, Montana; Kevin Knight. Tasks included project management, wetland delineation, individual permitting, and wetland mitigation design. Specific tasks included mitigation site analysis and design; functional assessment evaluation and comparison; and threatened, endangered, and sensitive species review. Tasks included construction and revegetation oversight.

Ratcheson Wetland Permitting, Hamilton, Montana; Bob and Peggy Ratcheson. Tasks included project management and permitting, client liaison between permitting agencies (Ravalli County Floodplain Admin.), wetland delineation, and nationwide permitting.

McMaster Conservation Easement Baseline Study, Helena, Montana; Conservation Fund. Tasks included baseline study for easement documents. These included vegetation and habitat mapping, species identification, identification of all natural resources ad structure, and report processing.

Manley Conservation Easement, Helmville, Montana; Montana Fish, Wildlife, and Parks. Tasks included baseline study for easement documents. These included vegetation and habitat mapping, species identification, identification of all natural resources ad structure, and report processing.

Central Idaho Riparian Mapping, Carey, Idaho, Lava Lake Lamb, LLC. Tasks included vegetation identification, riparian mapping, classification, and Riparian Wetland Research Program methodology.

Appendix A: Resumes for Key Staff

Jeffrey Berglund, PWS, CWS
Senior Program Manager

Education
B.A., Biology, University of Montana, 1986

Certifications
Certified Professional Wetland Scientist
Certified Wildlife Biologist
OSHA Certified Hazardous Waste Operations (29 CFR 1910.120)

Software
MS Office applications

Professional Development
Department of Natural Resources and Conservation Water Rights Training, 2000
Wetland Plant Identification and Ecology, 1997
Wetland Design and Construction, 1996
Applying the National Environmental Policy Act Process, 1996
Federal Wetland Regulation and Policy, 1995
Conflict Resolution: 404/Wetland Issues, 1994
Basic Fluvial Geomorphology, 1994
Advanced Fluvial Geomorphology, 1994
Wetland Delineation and Practicum, 1992
Jurisdictional Wetland Delineation in the Pacific Northwest, 1990
Harbor Estuary Program 200-Sampling Techniques and Sample Design, 1990

Mr. Berglund is a program manager and senior wetland scientist/wildlife biologist with more than 20 years of federal, state, and private-sector experience in the design and completion of wetland delineations and functional assessments; vegetation and wildlife baseline studies; wetland mitigation plans; biological assessments; biological evaluations; species management plans; and biological sections (wetlands, wildlife, vegetation, fisheries) of numerous environmental documents including environmental impact statements, environmental assessments, environmental impact reports, environmental checklists, and categorical exclusions. He authored the Montana wetland functional assessment method for the Montana Department of Transportation (MDT) and the Montana Interagency Wetland Group, now in use throughout Montana and in several other states. He has been involved in projects dealing with placer and open-pit gold mines; coal mines; gas, water, sewer, and crude oil pipelines; hazardous waste sites; subdivisions; highways; prison sites; timber sales; landfills; business parks; mitigation design and monitoring; habitat designation and mapping; and species-specific inventories. Mr. Berglund has provided extensive coordination with state, federal, tribal, and private interests relating to projects and has applied for and obtained several state, federal, and tribal environmental permits.

Representative Project Experience

Statewide Wetland Mitigation Monitoring Services (2001-2003), Montana; Montana Department of Environmental Quality (MDEQ). This initial, 3-year contract with the MDEQ involved a statewide, multi-season/multiyear monitoring effort at 30 wetland mitigation sites throughout Montana. Tasks included extensive agency coordination, monitoring strategy development, wetland delineation, wetland/open water aquatic habitat boundary mapping, vegetation community mapping, vegetation transect sampling, soils data collection, hydrology data collection, assessment of bird and general wildlife use, birdhouse mapping, photograph point data collection, macro-invertebrate sampling and analysis, global positioning system (GPS) data points collection and mapping, wetland functional assessment, examination of dike and control structures, corrective measures recommendations, annual report production, and presentation of results to the Montana Interagency Wetlands Group.

Statewide Wetland Mitigation Monitoring Services (2004-2006), Montana; MDEQ. This 3-year contract with the MDT, renewed for a second term, involves a statewide, multi-season/multiyear monitoring effort at 35 wetland mitigation sites. The tasks include extensive agency coordination, monitoring strategy development, wetland delineation, wetland/open water aquatic habitat boundary mapping, vegetation community mapping, vegetation transect sampling, soils data collection, hydrology data collection, assessment of bird and general wildlife use, birdhouse mapping, photograph point data collection, macro-invertebrate sampling and analysis, GPS data-points collection and mapping, wetland functional assessment, examination of dike and control structures, corrective measures recommendations, annual report production, and presentation of results before the Montana Interagency Wetlands Group.

Jeff Berglund, PWS, CWS, resume continued...

Murphy Ranch Wetland Restoration, Emigrnat, Montana; MDT. This project for MDT consisted of developing a design for Murphy Ranch, an MDT wetland mitigation site in the Butte District. Project tasks included groundwater monitoring; delineation of existing wetlands; mapping of all vegetation communities; design of stream restoration, wetland restoration, and creation features; and credit negotiation.

Wetland Restoration, Big Sky, Montana; Yellowstone Mountain Club. This project for the Yellowstone Mountain Club, a 13,400-acre development in Madison County, Montana, required the delineation and mapping of several thousand acres of largely forested, mountainous terrain for the private ski area and golf course development. The scope of work involved preparing wetland and stream restoration/mitigation plans at 45 individual locations throughout the area, conducting groundwater and channel monitoring at these and reference locations, providing hydrological analyses, providing water rights assistance, conducting historical research, coordinating geographic information system data and map production, and providing project oversight/management of all restoration activities.

Lonepine Wetland Mitigation, Helena, Montana; MDT. This project for MDT consisted of conducting all phases of wetland mitigation design at a proposed 80-acre mitigation site on the Flathead Indian Reservation in Sanders County. The scope of work involved agency coordination/credit negotiation, baseline wetland delineation and functional assessment, rare plant survey, soil sampling, groundwater monitoring, wetland mitigation and stream restoration design, MDT-compatible plan and specification production, environmental documentation, and permitting.

Alkali Lake Wetland Restoration, Montana; MDT. As part of the statewide wetland mitigation monitoring contract with MDT, this assignment required the preparation of a feasibility study of 5 stream restoration projects and the 200-acre historic lakebed wetland restoration of Alkali Lake on the Blackfeet Indian Reservation in Pondera County for mitigation purposes. Tasks included a baseline delineation, functional assessment, and extensive agency coordination/potential credit negotiation with the tribe, the Bureau of Indian Affairs, the U.S. Army Corps of Engineers (USACE), the U.S. Fish and Wildlife Service, and the Environmental Protection Agency. Future work includes design of Alkali Lake and production of MDT-compatible plans and specifications.

Kleinschmidt Creek Stream and Wetland Restoration, Montana; MDT. This project for MDT involved three separate restoration projects on Kleinschmidt Creek near Ovando, Montana. The project included more than 2 miles of channel restoration and fish habitat enhancement, more than 20 acres of restored or enhanced wetlands, and complete revegetation of the site to eradicate the tubifex worms and provide an important spawning stream for brown trout. The first 2 phases took place in 1998 and 2000, and the last and largest phase was completed in 2001, with monitoring continuing until 2006. The scope of work involved identifying the project as a potential for mitigation, negotiating with the landowner, facilitating a complete mitigation agreement between USACE over performance standards and the MDT, and providing permitting (Sections 404, 310, and 318).

Appendix A: Resumes for Key Staff

Marjorie Wolfe, PE, CFM
Project Manager/Water Resources Engineer

Education
B.S., Bioresource Engineering, University of British Columbia, 1997

Registrations/Licenses
Professional Engineer: Montana #1553; Idaho #11844; Oregon #77541; Washington #42634
Certified Floodplain Manager

Software
Total Station Survey - Topcon and Nikon Topgun Equipment
Global Positioning System Leica Survey
Softdesk, AutoCAD and Land Development Mapping/Drafting
Surveying - Hydrographic, Topographic, and Construction Stakeout
Hydraulic Design
Bioengineering Techniques
HEC-RAS and HEC-HMS Modeling
Culvertmaster and Flowmaster Models

Professional Development
University of Melbourne, 1995 Civil Engineering Exchange Program
Professional Floodplain Management
Fish Passage Design (culverts and fishways)
Mitigation Banking Workshops
HEC_RAS Advanced
LNG Development in the Northwest conference-Law Seminar
Hazardous Waste Operations and Emergency Response Training (40 hours)

Professional Affiliations
Environmental and Water Resource Group – President
Society of Women Engineers Region J – Treasurer
River Restoration Northwest – Assistant Program Coordinator
Association of Floodplain Managers

Ms. Wolfe is a project manager for PBS&J's water resources program. Throughout her career at PBS&J, Ms. Wolfe has proved a standout project manager with an innovative, enthusiastic leadership style that inspires confidence in clients and staff alike. Her success in blending the personal with the professional is evidenced by her status as the "go to" project manager for some of PBS&J's most politically and socially sensitive water resource projects. These projects often involve complex interagency coordination, resolving stakeholder controversy, and reconciling multiple project objectives.

Ms. Wolfe is an experienced manager who leads, listens, and responds. She has provided project management, engineering design, and construction oversight for a wide variety of water resource projects. Many of these projects have required innovative approaches, such as the development of a specialized alpine survey crew, the design of a 10-cubic-feet-per-second (cfs) recirculating trout stream or bio-engineering bank stabilization techniques adapted for critical bull trout habitat. She has experience in irrigation systems, fish passage, hydraulic structures, stream and wetland restoration, and environmental site clean up. Some of her current projects include bridge and dam replacements, fish passage projects, and a waterfall garden design. As a certified floodplain manager, Ms. Wolfe has developed an intimate understanding of regulatory issues related to floodplain restoration and development.

Representative Project Experience

Rocking K Ranch Habitat Enhancement Project, Montana. The Rocking K Ranch is a private ranch with a blue-ribbon trout stream flowing through it and exceptional elk habitat. These projects included survey, design, permitting, and construction oversight for habitat enhancement and irrigation projects that were under tight schedules with very high aesthetic standards. Projects included trout ponds, wetland, and stream restoration; irrigation and stockwater systems planning; waterfall design; bridge replacement; and irrigation flume reconstruction.

RE Miller & Sons, Various Locations, Montana. Provided engineering design, permitting, and construction oversight for a variety of stream restoration projects constructed RE Miller & Sons. Many of these projects have used innovative techniques and particular attention to detail in design and construction. These projects use natural materials to construct hydraulic features for irrigation diversions, fish passage, and fish habitat.

Neely Spring Water Supply and Dam Replacement Project, Georgetown Lake, Montana. This project requires the removal and replacement of a more than 100-year-old concrete dam and the head of a 10-cfs spring. The spring provides drinking water to two households and downstream spawning habitat. This project includes water quality analysis and septic non-deg review and stream and riparian enhancements. The dam replacement engineering incorporates a natural rock waterfall with controlled seeps to enhance the downstream terraced bog garden.

Marjorie Wolfe, PE, CFM, resume continued...

Professional Affiliations continued...
American Society of Civil Engineers
Coasts, Oceans, Ports, and Rivers Institute
Environmental and Water Resource Institute
Northwest Regional Floodplain Managers Association
American Fisheries Society
Oregon Association of Environmental Professionals
Women's Transportation Seminar
American Council of Engineering Companies

Expert Witness Floodplain and Septic Permit Review, Floodplain and Mean High-Water Mark Concerns for a Riverside Subdivision, Montana. Provided expert witness services in a subdivision dispute about floodplain issues.

Stimson Lumber Missoula, Montana. Provided permitting and engineering consultation related to the removal of the Stimson Dam on the Blackfoot River. This required scoping new fire suppression water supply source for the mill and proposing bank stabilization subsequent to dam removal. Additional services include SWPPP and National Pollutant Discharge Elimination System permits.

Yellowstone Mountain Club, Big Sky, Montana. This project required detailed time sensitive reporting. Worked closely with a team of surveyors, wetland scientists, hydrologists, developers, and attorneys to produce wetland delineation and mitigation reports, culvert replacement projects, stream and wetland restoration, and water quality monitoring.

Teller Wildlife Refuge Wetland Restoration, Montana. This project involved extensive wetland enhancement on a 60-acre site. It involved coordinating with multiple funding and permitting agencies and was designed to meet National Resources Conservation Service technical service provider standards.

Floodplain Study Levee Certification Review, Rocky Mountain Elk Foundation, Montana. This project involved reviewing new hydrologic data and existing flood studies to determine the floor elevation of a new building site. It also involved reviewing the certification of the existing levee.

Bitterroot Resort Stormwater, Montana. This project addressed stormwater management plans for construction of a new ski hill resort. High alpine hydrology and specialized best management practices were employed to prepare a SWPPP that would protect streams and waterways during construction on extreme slopes.

Streambank Stabilization and Revegetation, Smoking Rock Ranch, Montana. This project required politically sensitive design and permitting. This site on the Swan River is adjacent to some of the best bull trout habitat in the state. It is located on a dynamic reach of aggrading braided stream. The project was constructed to discourage avulsion using innovative biological engineering techniques and extensive permitting negotiations.

The Silverbow Club, Montana. The Silverbow Club was a proposed exclusive hunting and fishing club in rural Montana with properties along the Big Hole and Beaverhead rivers. Enhancements to these properties included river restoration, bank stabilization, wetland enhancements, waterfall design, revegetation plans, water quality monitoring and aeration design, and a 10-cfs recirculating stocked trout stream.

Wagonhound Ranch Douglas, Wyoming. Designed different fish screens and irrigation diversions for this private ranch including rotating drum screens, a gated pipe system, and infiltration gallery.

Ms. Wolfe's experience prior to joining PBS&J includes:

- Research assistant, MPA Williams and Associates, Bon Beach, Australia. Assisted with a research project in the treatment of saline mine tailings.
- Assistant engineer, Department of Fisheries and Oceans, Salmonid Enhancement Program, Vancouver, Canada. Supervised construction site crew, conducted survey and construction layout and AutoCAD drafting, prepared contracts, and ordered materials for constructing spawning channels, rearing ponds, and access ways for salmonids.

Appendix A: Resumes for Key Staff

Demian Ebert
Fisheries and Wildlife Biologist

Education
B.A., Biology, University of California, Santa Cruz

Software
MS Office applications

Mr. Ebert has more than 14 years of professional experience managing and conducting fisheries and wildlife investigations in northern California. His responsibilities include preparation of environmental analyses for development plans and projects, endangered species evaluations, field investigations, state and federal permitting, Endangered Species Act consultations, management plans, project management, and mitigation monitoring. Mr. Ebert has extensive experience in preparing technical documents that evaluate potential project impacts and present mitigation/monitoring and management plans to minimize effects on natural resources. He is also skilled in conducting evaluations of impacts to fisheries resources potentially resulting from operational changes to complex water projects. This includes development of analysis methodologies, data management, and monitoring to assess impacts from multiple sources. He has worked as an integral team member to ensure that data generated by hydrologic models was accurate and adequate for evaluation of effects on fisheries resources.

In addition, he provides wildlife biology expertise to a variety of clients throughout California. He has prepared biological assessments for proposed fiber optic cable alignments, timber harvest plans, and aggregate mining operations, conducted protocol surveys for northern spotted owls in Mendocino, Sonoma, Lake, and Trinity counties, conducted herpetological surveys of several significant natural areas in the City of San Francisco, participated in and managed California red-legged frog, arroyo toad, least Bell's vireo, and southwestern willow flycatcher surveys and reporting efforts near Santa Maria, California, assisted with surveys for Fresno kangaroo rat in Merced County; and San Joaquin kit fox in Merced and Tuolumne counties, and assisted the California Department of Corrections in obtaining state and federal permits for a shoreline stabilization project at San Quentin State Prison in San Francisco Bay.

Representative Project Expeience

Potter Valley Project Fish Screen Facility Compliance Testing, Potter Valley, California; Pacific Gas and Electric Company. Fisheries biologist for this project assisting Pacific Gas and Electric Company with experimental design, implementation, and analysis of data resulting from tests on a new, state-of-the-art inclined plane screen.

Tule River Native Aquatic Species Management Plan, Porterville, California; Southern California Edison. This project involves preparation of a plan containing a summary of the background data on aquatic communities submitted to Federal Energy Regulatory Commission during the re-licensing process. Additionally, it will establish the methods by which these communities are to be monitored and data evaluated through the life of the license. Project manager responsible for overall plan preparation.

Demian Ebert resume continued...

Monterey Amendments Environmental Impact Report (EIR), Sacramento, California; Department of Water Resources. The proposed project involves assisting the Department of Water Resources in project management, facilitating technical committee meetings, coordinating public meetings and hearings and preparing the technical analysis for the EIR. The EIR will evaluate: 1) the potential environmental effects of implementing the Monterey Amendment to the SWP water contracts; and 2) the potential environmental effects of additional actions which may be implemented through the proposed settlement agreement. Provided biological resource services for the preparation of the EIR.

Big Bear Creek Electrofishing Survey, Big Bear Lake, California; Big Bear Municipal Water District. This project involved assisting the Big Bear Municipal Water District conduct investigations of the trout habitat of Bear Creek. The work included measuring stream habitat characteristics such as water quality, hydrology, aquatic macroinvertebrates, and fish populations. The use of electrofishing techniques to measure fish populations was also implemented. Fisheries biologist responsible for conducting investigations of trout habitat.

Significant Natural Resource Areas Management Plan, San Francisco, California; City and County of San Francisco. San Francisco's mostly urban 49 square miles contains remnants of a unique ecosystem called the Franciscan landscape. As project manager, managed tasks that included cataloging existing conditions, mapping vegetation and sensitive species, and creating a system-wide geographic information system. The end result was a comprehensive management plan that emphasized habitat restoration, preservation, management, and maintenance for 31 different natural areas.

Ferry Terminal in South San Francisco EIR/Environmental Impact Statement (EIS), San Francisco, California; San Francisco Bay Area Water Transit Authority. This project included the preparation of the EIR/EIS, technical studies, and various permit applications for a proposed ferry terminal. This project represented the first new terminal site as well as first site-specific analysis following certification of the program EIR for expanded ferry service in 2003. The key issues in southern San Francisco included consistency with city plans for the waterfront and east of 101 area as well as traffic and circulation, air emissions, wake effects on the existing marina, and Section 4(f) related to the Bay Trail. Natural resources technical lead and EIS/environmental assessment section author.

Crystal Springs Reservoir Dam Abutment Improvement Project, Habitat Mitigation and Monitoring Plan, San Francisco, California; San Francisco Public Utilities Commission. As wildlife biologist, assisted the San Francisco Public Utilities Commission to quantify impacts and propose comprehensive mitigation strategies to enhance frog and snake populations in the Crystal Springs watershed. This project required endangered plant surveys of the entire shoreline of both reservoirs, and preparation of a wetland delineation. The wetland delineation was accepted in an official wetland determination by the U.S. Army Corps of Engineers without revisions. To compensate for impacts from the dam improvements, four mitigation sites, within the watershed where habitat can feasibly be created and enhanced, were identified.

Carranza Basin Habitat Reclamation Plan and Lucy Basin Conceptual Habitat Reclamation Plan; Hanson Aggregates. As reclamation design biologist, assisted Hanson Aggregates with a range of mining reclamation and permitting activities related to operation of Hanson's 100,000-ton-per-year aggregate quarry on the Sisquoc River. Tasks included conducting endangered species surveys on the site for 4 years. These surveys were conducted for the southwestern arroyo toad, California red-legged frog, southwest willow flycatcher, and least Bell's Vireo, to facilitate the Section 404 and Section 7 consultation process. A mitigation plan was also developed that would replace wetlands habitat so that no net loss of wetlands would occur. The mitigation monitoring plan specified performance goals to be attained over a 5-year period. A conceptual reclamation plan was developed for the Little Lucy Basin.

Appendix A: Resumes for Key Staff

Bruce Anderson
Environmental Scientist

Education

M.S., Forest Hydrology, University of Montana, 1985

B.A., Biology, University of California at Santa Cruz, 1983

Certifications

40-hour Hazardous Waste Operations and Emergency Response Course; 8-hour refresher courses (OSHA)

Software

MS Office applications

Mr. Anderson is a senior hydrologist/statistician program manager. He manages surface water hydrology projects including hydraulic modeling, natural channel design and stream restoration, sediment transport, fluvial geomorphology, water quality monitoring, fisheries enhancement, irrigation structures, water yield, and other related projects. Mr. Anderson has been the project lead on many natural channel design and design-build projects including 2 recent channel restoration feasibility studies for 30 miles of streams in western Montana. These projects incorporated a rigorous resource analysis and engineering approach using survey-grade global positioning systems, HEC-RAS and sediment transport modeling, quantitative geomorphology, riparian condition, and fish habitat analysis, water rights, and geographic information systems (GIS). The analyses resulted in proposed channel design alternatives that included alignment and cross sections, revegetation, construction sequencing, and detailed engineering cost estimates.

Representative Project Experience

Clark Fork Basin Water Quality Monitoring Program, Idaho. This project involves the operating a monitoring network of 30 stations and the analysis of water quality data for the 22,000-square-mile Clark Fork-Pend Oreille Basin. Analyzed 10 years of data for 70 monitoring locations using advanced statistical techniques. Incorporated monitoring program improvements and design into a water quality monitoring system for the Tri-State Water Quality Council. Defined 7 priority water quality monitoring objectives: 1) trend detection of nutrient concentrations in tributaries and the mainstem Clark Fork River; 2) assessment of trends in attached algae in the Clark Fork mainstem; 3) assessment of compliance with mid-summer nutrient water quality targets for the Clark Fork River; 4) estimation of annual nutrient loading to Pend Oreille Lake; 5) assessment of trends in attached algae in near-shore areas of Pend Oreille Lake; 6) assessment of trends in Secchi transparency for Pend Oreille Lake; and 7) evaluation of trends in nutrient concentrations in the Pend Oreille River, and in nutrient and fecal coliform concentrations in Pend Oreille River tributaries. Operated the monitoring system from 1988 to the present. The program includes water chemistry and periphyton monitoring at 30 stations. The monitoring program is supported and sponsored by Montana, Idaho, and Washington state agencies, the Kalispel Tribe of Indians, the Environmental Protection Agency, industrial and municipal wastewater dischargers, and a broad base of public interest groups and watershed stakeholders. In 2003 and 2004, completed a status and trends analysis for the entire 19-year period of record. Developed an interpretive report to assist the Council in fine-tuning its management strategy and further optimizing the monitoring program. Also assisted the Council in developing summary brochures and Web publications.

Bruce Andereson resume continued...

Missouri-Madison Rivers Monitoring Program Statistical Analysis, Montana. This project used statistical methods to optimize water quality trends and compliance monitoring network for the Madison and Missouri rivers operated by the Montana Power Company as a Federal Energy Regulatory Commission (FERC) licensing requirement. Reviewed historic water quality data for the Missouri-Madison system from Hebgen Lake to Morony Dam near Great Falls. Provided recommendations regarding optimal sampling frequencies, appropriate monitoring variables, and data storage and evaluation methods. Parameters included total and dissolved nutrients and metals, turbidity, attached algae, fish tissue, and benthic macroinvertebrates. The final water quality monitoring plan was approved by FERC in 2002.

Kleinschmidt Creek Projects 1 and 2, Ovando, Montana. Completed three separate restoration projects on Kleinschmidt Creek near Ovando, Montana. The first 2 phases took place in 1998 and 2000 respectively. The last (and largest) phase was completed in 2001, with monitoring continuing until 2006. Identified the project as a potential for mitigation, negotiated with the landowner, and facilitated a complete mitigation agreement between the U.S. Army Corps of Engineers (USACE) and the Montana Department of Transportation (MDT). The planning steps for this project included:

- Extensive negotiations with USACE over performance standards and credit ratios. The negotiations hinged on the definition of the phrase "substantially degraded" in the Code of Federal Regulations that guide the credit process
- Extensive negotiations with the landowner and MDT on easement language
- Extensive negotiations with Montana Fish, Wildlife, and Parks on Section 6 certification to allow the project to avoid lengthy review under the Endangered Species Act
- 404, 310, and 318 permitting

The actual work involved more than 2 miles of channel restoration and fish habitat enhancement, more than 20 acres of restored or enhanced wetlands, and complete revegetation of the site. The pre-existing creek was over-widened and had become a major source of whirling-disease-carrying tubifex worms to the Blackfoot River system. After the project was completed, habitat for tubifex worms nearly disappeared, and the creek has become an important spawning stream for brown trout.

Montana Stream Permitting Manual, Montana. Developed a comprehensive guide to stream permitting for the State of Montana. This full-color, 120-page guide is used as a resource by conservation district supervisors to administer the 310 law. Detailed descriptions of hard and soft bioengineering, irrigation diversions, hydraulic structures, and basic stream dynamics are included.

Pioneer Mountain Ranch, Idaho. The Pioneer Mountain Ranch comprises approximately 1 million acres of deeded and leased ground in south central Idaho including extensive leases on Bureau of Land Management, (BLM) U.S. Forest Service (USFS), and state lands. Provided extensive natural resources planning services for the parent company, Lava Lake Land & Livestock, in collaboration with The Nature Conservancy. Principal architect of the GIS system covering more than 1 million acres. Development of the system required extensive integration of spatial data from state, federal, and private sources. Integrated approximately 100 data layers for resources such as upland and riparian vegetation type and condition, soils, water quality, wildlife, infrastructure, aerial photography, etc., into the GIS system. This comprehensive GIS system also includes detailed site specific studies with coverage for source area and sediment loading to streams, riparian vegetation condition, weed coverage, upland vegetation condition and production, wildlife movement, and song-bird habitat as indicators of habitat quality. Also conducted numerous on-site studies to develop data for riparian condition, irrigation, water rights, and water quality. The site specific studies and GIS system are used to track and manage sheep bands and optimize natural resources management objectives. The system was used to identify sensitive resources, or habitats/landscape units that were impaired, and recommend changes in sheep movement and management. The Nature Conservancy has been actively involved throughout the project, as well as state and federal resource agencies (USFS, Natural Resources Conservation Service, BLM, Idaho Department of Environmental Quality, etc.).

Appendix A: Resumes for Key Staff

Roger Austin, PLS, CFM
Senior Surveyor

Education

Continuing Education Courses, 1995-1999
Land Surveyors Licensing Refresher Course, Renton,Washington, 1988-1990
Southern California Surveyors Apprenticeship Program, 1969-1974
North Dakota State University, Fargo, North Dakota, 1968-1969

Registrations/Licenses

Professional Land Surveyor: Montana 12252 LS; California 6743; Washington 27131
Certified Party Chief: Southern California Apprenticeship Program
Certified Floodplain Manager

Software

MS Office applications; CADD software (SoftDesk); Land Development Desktop

Mr. Austin is a professional land surveyor with more than 30 years of experience in providing boundary surveys, general land office public domain breakdown, certificates of survey, subdivision and related utility plans, and floodplain studies. His background also includes field supervisor/crew coordination; construction stakeout; hydrographic, geodetic, environmental, and topographic surveys; and field supervision and quality control/quality assurance for total station and global positioning system surveys. Throughout his career, he has worked with civil engineers, land surveyors, hydrologists, and general contractors.

Surveyor Experience

- Professional land surveyor, Land & Water Consulting, Inc., a Division of PBS&J, Missoula, Montana (1999-Present)
- Vice president, office and field manager, Headwaters Engineering & Surveying, Dillon, Montana (1995-1999)
- Party chief, Triad Engineering, Mammoth Lakes, California: AutoCAD design and drafting (1991-1995)
- Party chief, chief of parties, Eastside Consultants, Issaquah, Washington: AutoCAD design and drafting (1988-1991)
- Party chief, Arnett and Associates, Renton, Washington: AutoCAD design and drafting (1988)
- Party chief, Joel Silverman and Associates, Calabasas, California (1986-1988)
- Party chief, Voorheis Company, Northridge, California (1976-1986)
- Instrumentman, Roger Muerer & Associates, Rolling Hills, California (1976)
- Instrumentman, Parsons Construction, Trona, California: chemical plant expansion (1975-1976)
- Instrument operator, Oil Refinery C.F. Braun, Alhambra, California (1975)

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